THE ARCHITECT

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THE ARCHITECT

VOLUME X — SAN FRANCISCO, CALIFORNIA, SEPTEMBER, 1915 — NUMBER 3

J. A. DRUMMOND, Publisher . . . . CLARENCE P. KANE, Editor

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Editorial

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American Builders to Convene

Those engaged or connected with building activities will be interested to know that "American Builders' Week" at the Panama-Pacific International Exposition, in October next, from the 18th to the 23rd, has taken on great significance, and cannot fall short of being of incalculable interest and benefit to visiting builders and other employers in building industries.

Of more than passing interest is the announcement that men, notable in branches of government and building, will be present and will address the gathering. This includes Governor Hiram W. Johnson of California, Honorable James Rolph, Mayor of San Francisco; Mr. Chas. C. Moore, President of the Panama-Pacific International Exposition. Major Geo. W. Goethals has been invited to address the building congress on the subject of Organization As Applied to Construction Work," and Mr. H. L. Lewman, President of the National Association of Builders Exchange of Louisville, Ky., will talk on "National Organization in the Building Industry—It's need."

Just as we go to press it is most gratifying to learn that R. Clipston Sturgis, President of the American Institute of Architects, has accepted an invitation to address the congress and will be present and speak on October 19th, his subject being "The American Builder."

No such opportunity, as American Builders' Week, of promoting harmony among the building fraternity of this great nation, has ever occurred before, nor could a more appropriate place or season for such a gathering have been selected.

The assembling of many thousands of builders from every city and corner of the country to participate in such a builders' celebration cannot fail to promote and foster an interchange of progressive thought upon technical and business matters, or to more firmly establish good fellowship, educational and social intercourse.

An Article by President Sturgis

While mentioning the name of President R. Clipston Sturgis, of the American Institute of Architects, we take advantage of the opportunity to inform our readers that the October issue of this publication will contain an article from the pen of Mr. Sturgis, written by him at the request of the editor of *The Architect*.

Mr. Sturgis calls special attention to the article entitled, "Important Information for the Client," prepared under the direction of Mr. Eugene H. Taylor, Secretary of the Iowa State Chapter, A. I. A., and appearing in our August issue, by presenting an analogical thesis vividly descriptive of the growth of "The Institute" and adding interesting information on chapter activities and developments, as finally encompassed. Mr. Sturgis also speaks of the benefits to the profession in general, as a result of the work of the Institute members, and refers to the need for more united action, which will come with larger membership.

This article will prove very profitable reading. It is our hope that it will provoke widespread interest, and that the "call," if we may so state it, will produce goodly response.

* * *

Faience Tile for Color Work

It has been pointed out that each year witnesses a steady increase in the use of faience tile, both in colored matte glazes and in bright Moorish designs.

The range of effects secured by the use of faience is practically unlimited, extending from the most severe and unrestrained classic to the almost barbarically gorgeous in color and form. Faience tile possesses the capability of suggesting or echoing, by arrangement and shape of the units employed, that particular type of architecture characterizing the building in which it is employed. Thus the architect has form as well as color at his disposal in the use of this material, and may, with equal facility, suggest the ordered jointing of the Grecian Temple or the cyclopean masonry of barbaric races. If he also makes use of moulded faience in low relief for decorative borders, caps and mouldings, he may fix his period almost to a day and stamp the whole as Aztec, Egyptian, Pompeian, Rococo, or what he will.

At the San Diego Exposition the color work has been most satisfying, being absolutely suited to environment and climate. Colored glazed tile was used for this purpose. In the true Spanish Colonial style, Moorish designs in high glazes have been used lavishly. It is not too much to say that, whatever visitors to San Diego may forget, they will never forget their first view of the California State Building, with its resplendent glazed tile dome and its tile ornamented massive tower.

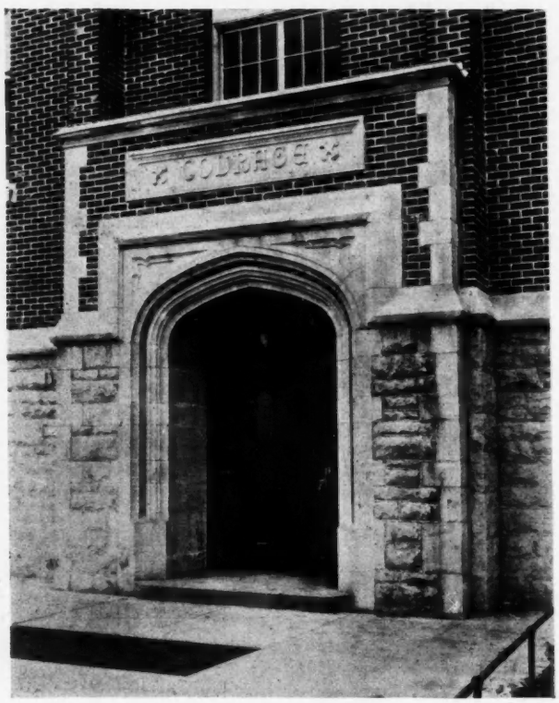
Some Refinements in School Buildings.

By HEATH & GOVE
ARCHITECTS TACOMA BOARD OF EDUCATION

An architectural article usually starts with the pyramids and ends up with a peace oration, so that the overworked junior partner who reads it (if he ever has time to read) knows no more when he gets through about master-keying or loop-venting than he did before.

We wish to mention in this plain and homely recital some little tricks which we have learned by experience make school buildings pleasant for the school ma'am and her forty odd wrigglers. In 1904 Mr. Frederick Heath was appointed School Board Architect of Tacoma, and the firm has held down the job ever since, wholly because of the steady improvement of the buildings. Tacoma possessed at that ancient date mostly old-fashioned frame and few brick buildings, built entirely without correlation or prospect. He set to work to devise a unit plan, and all of the buildings from that time to this have been built with a definite purpose.

The unit plan as adopted then has been in general adhered to in subsequent buildings. One of the main features of this plan is the utilization of the space beneath the stair landings for the entrances; thus saving considerable length in the building. Another is the placing of the fresh air and vent flues in the ends of the coat room, again saving in length of the building over plans where they are taken from the ends of the rooms, or in width where a breathing wall is used. This also avoids the beautiful jogs often seen in school plans. Another one is the location of the teachers' closets in the coat rooms; thus saving the door space in the class room for additional blackboard. The entrance doors are recessed to provide shelter from the rain without elaborate architectural porches. Ornamental wrot iron gates close these recesses at night. Collapsible gates are too flimsy and are not in keeping with a good building. We use stone steps exclusively, cement proving too slippery, and the entrances are lined with tile or ornamental brick patterns. Oak is used at entrances even where fir must be employed for interior trim. Provision is made in the heating plant of the first eight-room unit for future extensions.



DETAIL OF DOORWAY
LINCOLN PARK HIGH SCHOOL, TACOMA
HEATH & GOVE, ARCHITECTS

One of the most radical policies of the Tacoma School Board, and one which may perhaps meet with criticism is the decision not to build fireproof buildings. The evolution of the modern school building is so rapid and the changes are so extreme, that it seemed to the board wicked to tie up immense amounts of money in absolutely permanent unchangeable structures.

In the Tacoma buildings the boiler rooms and the basement ceiling slabs are entirely fireproof, of reinforced concrete; the stairs are enclosed in fire-proof partitions, and in some of the buildings the corridor partitions are of masonry. The flooring joists of the second story and ceiling and roof are, however, of wood. The roofs are protected with slate or tile, or if flat, of heavy tar and gravel covering. Pits with removable iron gratings over them are set in the cement walls, acting effectively as foot cleaners. Basements are twelve feet as a minimum height with windows all above grade.

In the later buildings manual training and domestic science are amply provided for, as well as play rooms. All of the toilets in the grade buildings are placed in the basement. They are arranged with in and out doors, hinged to swing against iron railings so that there can be no slamming or confusion. The toilet stalls are open with wooden screens carried on gas pipe frames. All white enameled, and juvenile toilets are used throughout. All toilet fixtures are local vented, the ducts from which run into an up-take surrounding the boiler flue. Separate toilet rooms are provided for large and small children. In our larger buildings the play space in the basement is also semi-separated, so that the children are kept as much separated as possible. We go so far as to provide four entrances to the basement.

The play room floors are of Mastic Asphalt or similar composition, diminishing greatly the noise and the danger from falls from play apparatus.

The basement windows have guards inside and out, and also electric lights which are indirect have guards.

The basement ceilings are of Compo Board paneling, painted light French gray. All the heating ducts are enclosed in some sound-deafening material. All platforms and treads of stairs are of Raecolith with cast iron or brass nosings screwed on. The stairs are all of the closed string type and where wooden balustrades have had to be used they are plain square tapered balusters with plain solid bored posts. Wall hand rails are of galvanized iron with an especial fitting to anchor them into the tile walls. The run and rise of the stairs is 6″x11½″. The landings are made very large. In many of the buildings wherever turning points in the circula-

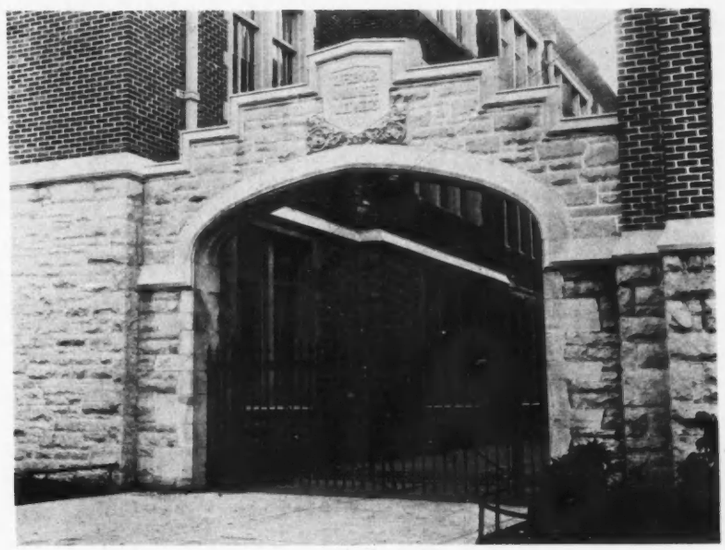
tion occur the corridors are enlarged. In the Lincoln Park High Scool the auditorium is placed half way between the first and second floors, thus obviating much of the stair climbing. There have been no complaints at this building from the mothers of young buds who dance all night but find stairs fatiguing. Pale pearl colored opalescent glass is used in the High School Auditorium which gives a soft diffused light, rendering shades unnecessary. We have found this a better projector of light than prism glass.

In the high schools the room doors are set back to the inner face of the double breathing wall, thus providing additional width in the corridors. The windows are of the Whitney type with transoms, stools 3′ x4″ from floor. The sash are made 2¼″ thick and narrow on the face. We divide the glass into small lights on account of breakage, and to reduce the scale of the overpowering windows. Realizing the impossibility of providing metal sash for the ordinary school building we have enlarged windows to the utmost limit. We use a specially designed steel mullion in our group windows; thus avoiding the expense of heavy lintels and adding greatly to the stability of the structure.

In heating and ventilation we enlarge the fresh air inlets just before they enter the room, thus reducing the velocity of the air and directing its flow as desired. There are no registers on the out-take, which is lined with galvanized iron and rounded for ease in cleaning, coming directly at the floor line.

Air is recirculated by means of ducts in the attic space during the morning hours of warming the building, but no recirculation is permitted during school periods. Forty-five cubic feet of air per pupil is provided for.

Provision is made for both oil and coal as fuel, serving as a check upon dealers. Although many kinds of boilers have been used we rather incline to the good old reliable, horizontal, tubular. As the heating of most school buildings is worked out by the engineer, but one more pointer may be necessary; that is, check up your engineer. A school building is usually erected for educational purposes, and not to exploit methods of construction, heating or ventilating or special fixtures which are supposed to facilitate these processes, which, however, are only incidental.



DETAIL ENTRANCE GATE
LINCOLN PARK HIGH SCHOOL, TACOMA,
HEATH & GOVE, ARCHITECTS

The chalk trough is cut from the solid and provided with removable wire screens in sections. This has almost solved the dust problem in the class room. The blackboards are set with strips at the top and bottom and ends against three solid grounds and held with round headed brass screws. Cedar is used for the backing of the exhibit boards with burlap covering. Picture mould is placed in all rooms and corridors close to the ceiling and is tinted instead of forming a thin wooden line. The coloring of the rooms and halls has been given special attention to harmonize with the varnished wood finish. Some of the schools have had burlap wainscoting, but we are getting better results from hard plaster painted with one of the washable wall finishes. We have experimented extensively with these, and would be pleased to tell our troubles in private to other architects.

All base and trim, etc., is specified in long lengths; no joints.

MAIN ENTRANCE DETAIL
LINCOLN PARK HIGH SCHOOL, TACOMA,
HEATH & GOVE, ARCHITECTS

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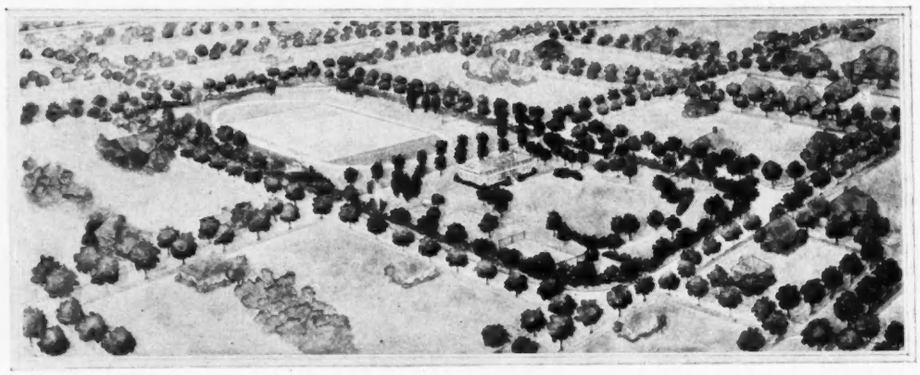
Landscape Development of School Grounds

By PROFESSOR J. W. GREGG
DIVISION OF LANDSCAPE GARDENING, UNIVERSITY OF CALIFORNIA

More than three-quarters of a century ago a well known writer was far-sighted enough to sound the true note of progress in the improvement of the architecture and physical surroundings of our public schools, in the statement that "the time would come when every school building would be a temple on whose exterior the occupant could study the principles of symmetry and grace, and located in large, airy situations, overshadowed with beautiful trees and embellished with shrubbery, flowers and lawns." Continuing, the writer said, "Let the communities now so anxious to raise the standard of education, venture the experiment of a more liberal adornment of the places devoted to it."



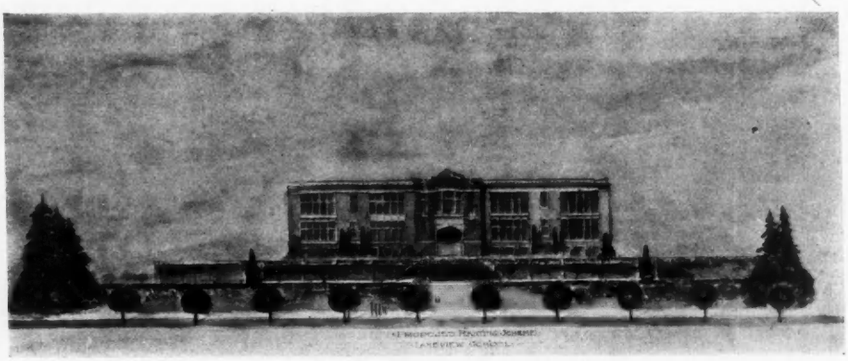
SAN PABLO PARK, BERKELEY, CAL.

During the last half century, the spirit of the above quotations has indeed manifested itself and California stands today very high in the number and excellence of her school buildings. School architecture has improved wonderfully, not only in our large cities but in our towns and rural communities where the large union schools are becoming such important factors in the educational system of the state, but can we say as much concerning the improvement of the grounds around the majority of our school buildings? Many buildings in our cities and towns are veritable places with the surrounding grounds not materially better than they were fifty years ago. We are grateful for and proud of the great improvement in architecture, and can only express our regrets that the areas upon which these beautiful and commodious buildings have been erected, have not been more intelligently chosen, the buildings in the majority of cases better located, and the grounds more highly developed in harmony with the prevailing type of architecture.

In designing a modern school building the health and education of the student is receiving every attention. The problems involving interior arrangement, proper lighting, ventilation, and the control of temperature from both the economic and aesthetic standpoint, are receiving most careful study. All this is as it should be, but we should not forget that the proper moral, intellectual, and physical development of the student can not be controlled alone by providing beautiful and well arranged buildings. In California more than in any other state, the people lead a spontaneous, out-door life and here perhaps more than anywhere else, can great lessons be learned from Nature alone, in her magnificent school building, the great out-of-doors.

One of the first problems that should be more seriously considered by our boards of education is the selection of a proper area on which a new building is to stand. It is a perfectly natural desire to choose a site in as central a location as possible in order that distances may be shortened to accommodate the largest number of students. In the majority of cases, however, such a selection is made at a great sacrifice in size of area and a generally desirable contour of the land, and at the same time losing that most desirable element in an educational atmosphere, quietness.

School buildings are too often located on small, rough, or irregular pieces of land, bordered on all sides perhaps by street cars or other heavy, noisy traffic, or manufacturing, simply because someone having a political pull had a piece of land that they could not dispose of for any other purpose, or at anywhere near the price the city or town could be forced to pay, or because boards of education fail to appreciate the aesthetic and economic



PROPOSED PLANTING SCHEME
LAKEVIEW SCHOOL, OAKLAND, CAL.

principles involved. Upon such sites beautiful buildings are erected, hundreds, yes, thousands of dollars spent for grading and the construction or retaining walls, steps, play areas, etc., with the inevitable result that such areas will never satisfactorily accommodate student activities or permit the planting of trees, shrubs or the maintenance of lawns, so essential to the best aesthetic development.

No matter how architecturally beautiful a building may be, its appearance, as a rule, is always improved by an appropriate landscape setting, said setting consisting in the majority of cases of a large area with the building properly located and the whole embellished by the intelligent selection and arrangement of plant materials and other landscape features. Oftentimes the money spent in grading and the solution of other pre-construction problems, together with the amount paid for the land over and above a fair normal price, would be more than enough to purchase a larger, more regular and better located area, capable of being developed at a much less expense and providing all the necessary and desirable features in the form of play areas, plantings and general aesthetic development.

Every one should realize how much a proper foreground enhances the beauty of a building and how architectural effects are oftentimes entirely lost when buildings are located too near the street. But in order to make every foot of land available for play areas or other necessary features, beautiful buildings on small areas must be placed so near the street that much of their architectural beauty is lost. In such locations classrooms are noisy and dusty, and the children are discharged immediately into the street with all its impending causes for accidents.

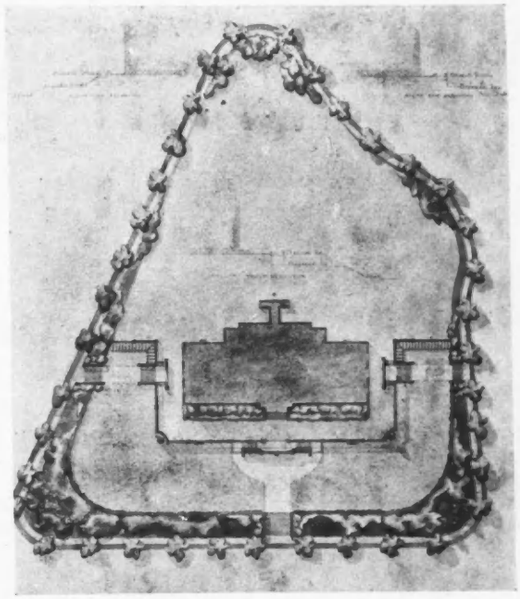
School grounds should be large enough and the building so located that play or recreational areas can be located to the rear or at one end of the area, never in front as is so often the case when we see tennis courts, basket ball courts and sordid and dust-swept areas spoiling the beautiful effect that trees, shrubs, flowers and green grass should produce. We do not locate a tennis court in front of our house where the lawn ought to be, because we believe in having open lawns bordered with shrubs, trees, flowers, etc. Why should we not just as appropriately apply the same principles of embellishment to the school homes in which the children of this country spend so much of their time, especially at an age when surroundings count so much in the upbuilding of their mental, moral and physical fiber? If the school home is to compete with the temptations round about the growing child, it must be fortified with every excellence obtainable until we can truly state that it's a poor school today that does not have attractive grounds and commodious playgrounds properly located.

Mark Hopkins on one end of a log and the young Garfield on the other might illustrate, by keen discussion, the central life of a university, but no sane man would thereby argue that extensive buildings, spacious grounds, and modern apparatus are not essential to the work the university must do today. What has been made to answer in the past will not do now; everything must be adjusted to the demands of the present and the near future. The needs of the future especially should receive more careful consideration since many of the improvements made today are intended to be permanent in character.

City planning can accomplish a great deal along this line by providing early for future needs. State, county, city and town should unite in demanding by law that before all plans for the numerous real estate subdivisions are accepted and filed, they shall show proper areas reserved for school buildings.

Walks or drives are not in themselves ornamental, and are as a rule most expensive in construction and general maintenance. They are more or less necessary, however, and may make or mar the whole scheme according as they are properly or improperly located, or as they approach the extreme in width and number. On small grounds or when the building is close to the street, a single entrance with a straight single or double walk is usually most appropriate and most serviceable, but when the grounds are large and the building is located some distance from the main street or avenue, an entrance near each front corner of the grounds with walks laid out in easy, graceful curves, furnishes a most serviceable and attractive arrangement.

The number and location of walks will be determined more or less by the number, importance and location of



PROPOSED PLANTING SCHEME
LAKEVIEW SCHOOL, OAKLAND, CAL.

entrances to the building as well as by the principal directions from which the greatest number of students come, while the width of walks should be governed by the number of students to be accommodated, and the number and relation of the walks to the architectural lines of the building. As a rule, walks are too numerous, too wide, and poorly located, and, hence, are the most conspicuous features in the whole design.

The most important elements to be considered in the embellishment of school grounds are the plant materials to be used. Nothing adds more to the beauty and suitability of such areas than a good collection of judiciously planted and well grown trees. In such material is found a great variety of useful and ornamental qualities; the evergreens in particular are valuable for the protection they afford building and play areas from the sweep of disagreeable winds, while the deciduous varieties furnish desirable shade and comfort, as they may be planted in certain sections of the state when climatic conditions warrant their use.

Continued on page 130

California School House Architecture–Past and Present.

By JOHN J. DONOVAN

The publisher has asked me to write something about California school architecture. I hesitated at first, for I hardly know where to begin and apprehended the end would find me glorifying my own small contribution to California school work. However, the happy thought struck me that I might point out some of the reasons why California has only a few good examples in this work, and in a measure, predict what the future holds forth for a State which is generous and responsive whenever education is the motive.

For the large amount of money spent in school building, California has little to show in the way of architecture in good planning and good design, and the main reason for this is the Act of 1872. In 1872 the State Legislature passed a bill making it mandatory for all School Boards and County Supervisors to advertise for plans, specifications, and details whenever the expenditure for work amounted to more than $200, just as Supervisors occasionally advertise for bids on butter, cheese and eggs.

In consequence of this Act, the field of men performing school work was limited to a few who knew the "ropes" and knew just how to "work it," in order to comply with the provisions of the Act, or better yet, who knew how to circumvent the law and succeed with the building operation. It is not that California hasn't men in the architectural profession comparable with those of other sections of the country in training and ability, that school architecture went "to rot." Not at all, for marks of their skill is evidenced at every hand, by the many charming and delightful examples scattered throughout the State. But rather the prevailing conditions surrounding school work and the methods necessary to obtain it were of such a nature and character that the best trained men never found it favorable to enter this field of their profession.

What is meant by prevailing conditions and the methods adopted is best illustrated by citing specific examples. Before doing that, however, I wish to give my observations of the average School Board. The great majority of School Board Trustees are men and women who are deeply interested in the welfare of the school and bend their efforts to accomplish the best obtainable, both in building and in teacher, for the school is the most cherished of American institutions. Many School Boards serve without any financial remuneration, and serve most faithfully and zealously, devoting almost as much time to this civic work as they do to their life's work or business.

Therefore, there can be no criticism leveled at a body which is forced to abide by a law which practically tied their hands and left them to transact a certain part of their work by the crude means at hand.

Turning to the prevailing conditions again, a school house was contemplated in a city or district, and bonds voted. Then in order to comply with the law the board must advertise for plans, specifications and details, stating the number of rooms, and, mark you, according to a strict interpretation of this law, this competitive work must be the finished product. For even an ordinary job, the course of procedure is first, the preliminary study; then several restudies in order to solve the problem conscientiously; after this, and the approval of this part of the work, follows the preparation of the working drawings. And every problem undergoes further study in the second stages, and when this part of the work is completed, the specifications follow, which, at best, are only a written interpretation of the drawings.

Now how many of these competitions could an architect enter into before reaching the state of insolvency, especially if he took his work seriously and wished to turn out work that would be creditable to himself and to his clients. The natural result was that the work narrowed down to a few who made a practice of entering these competitions and from force of circumstances were forced to "railroad" the work out of their offices as quickly and as inexpensively as the shortest cuts would permit.

Is this the practice of architecture that we have been taught to follow by our patrons, by our architectural schools and by all that is best within us, our good taste? And is this the practice of architecture that such a generous State as California deserves? The answer is this.

The architecture of many of the structures, designed and built under these conditions, is a protest louder than mere words or railings against this prostitution of the profession, and what is more important, the degrading influence of miserably designed and poorly equipped school buildings, has had a marked effect upon the public bodies interested in building work. It has been said that if one keeps step long enough with a lame man, he is bound to limp, so too, if our visions are limited to the vulgar, our taste must naturally follow, for the rule is first to abhor, then to tolerate and finally to embrace.

Many of the problems were seldom solved on their merits. By that I mean that each school house is a distinct problem in itself, just as in literature, painting, sculpture or even dressmaking, the author or artist would never think of using the same lines, the same figures, the same terse, to his work over and over again. Yet we find in some of the school work, a design, or rather a type, used over and over again in different sections of the State.

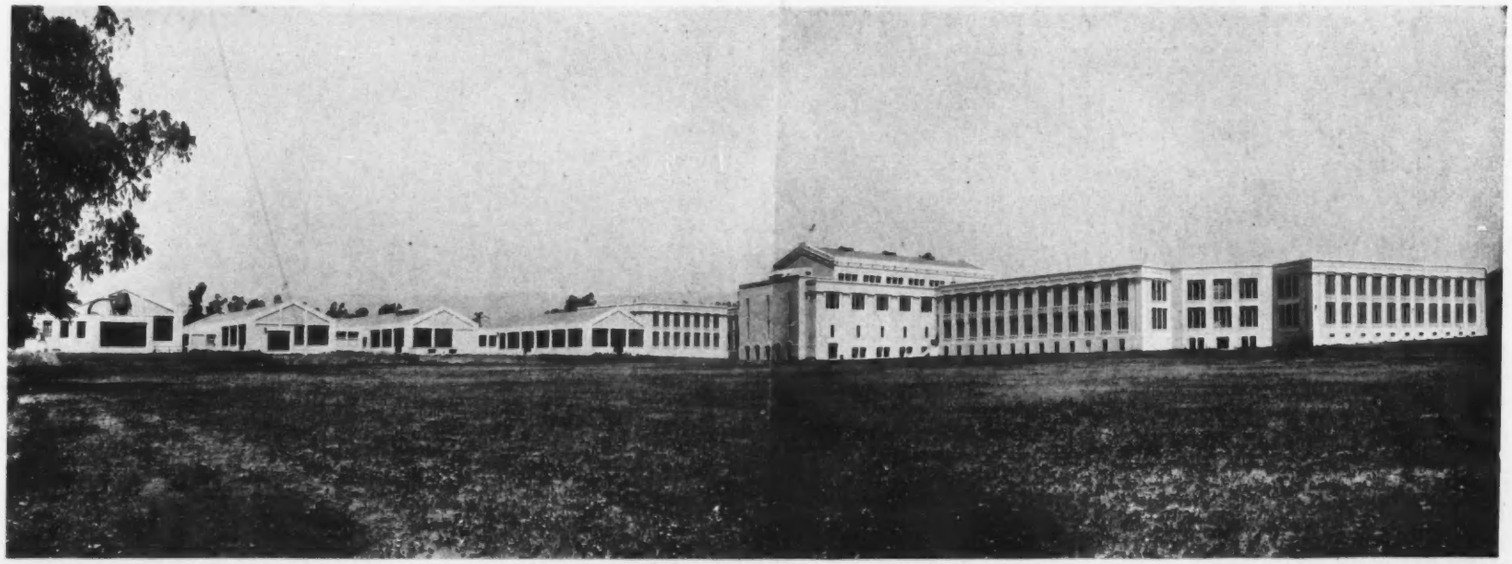
An "H" shape plan extended or contracted to include the number of rooms, over or under, required in the first problem, never an attempt at variety, and never an attempt to get away from the monotonous.

Then again we find the strained effort to apply the monumental dome and the meaningless pediment to a simple four room school. Go where you will, through the innocent districts, and there masterpieces of junk are found to flaunt their misapplied domes or their "classic" forms at you. What a pity Vignola wasn't strangled when an infant. Many a deserving community would have been spared permanent abortions. How interesting an address would prove if a particular adjective occurred in every sentence, and the address of a questionable character. This is the address in permanent materials that California has had to sit and listen to since 1872.

Notwithstanding the bad start, the State has much to anticipate in future work. The wider use of the school building and the wider use of the grounds have brought new elements, new thoughts, new inspirations and a new spirit into school work, so much so, that the plan has assumed a different form and, in consequence, a changed expression in the elevation and perspective naturally follows. The underlying principles of good class-room arrangement are constant however regarding orientation, placing of windows, floor areas, space volumnes, etc., and should be maintained at all events, but the wider

Continued on page 138

BROADWAY FACADE



REAR VIEW FROM CAMPUS, SHOWING SHOPS

OAKLAND TECHNICAL HIGH SCHOOL, OAKLAND, CAL.

JOHN J. DONOVAN, ARCHITECT, HENRY HORNBOSTLE CONSULTING ARCHITECT

SOUTH EAST VIEW

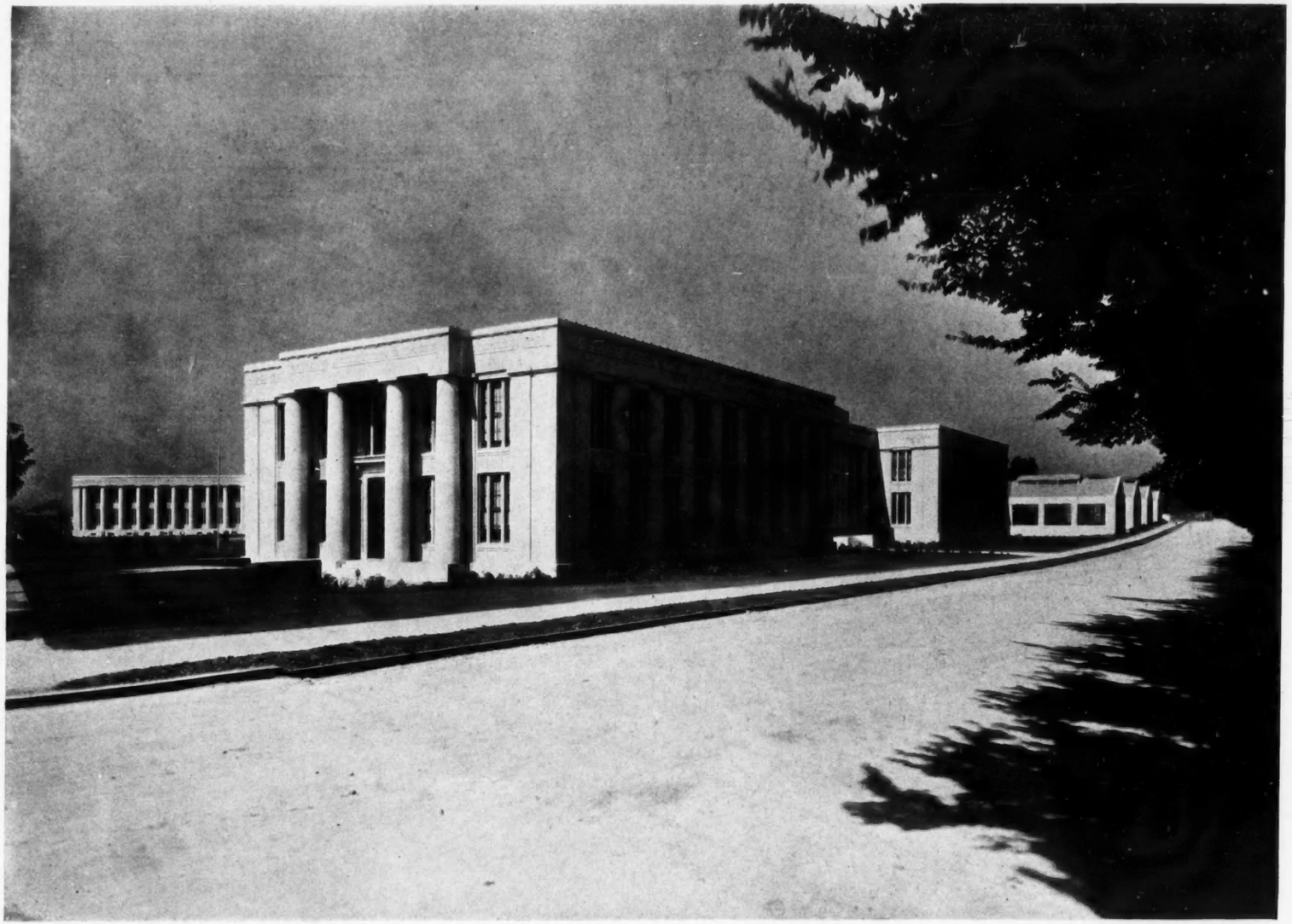
OAKLAND TECHNICAL HIGH SCHOOL, OAKLAND, CAL.

JOHN J. DONOVAN, ARCHITECT, HENRY HORNBOSTLE, CONSULTING ARCHITECT

MAIN ENTRANCE

OAKLAND TECHNICAL HIGH SCHOOL, OAKLAND, CAL.

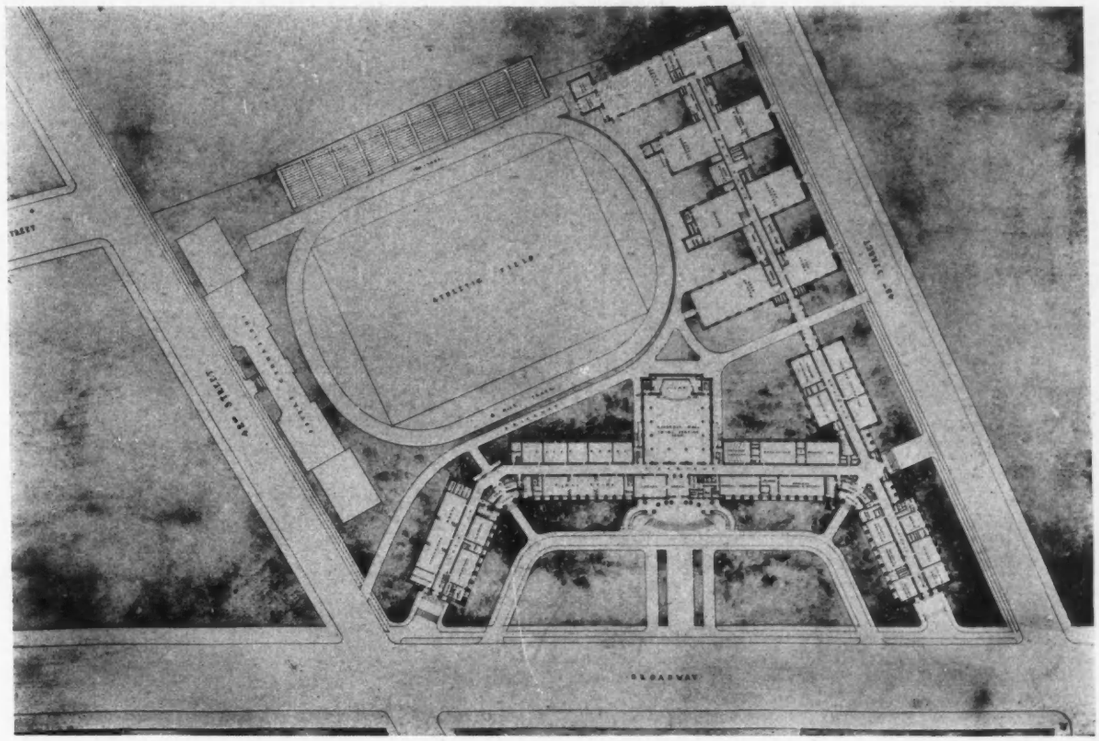
JOHN J. DONOVAN, ARCHITECT, HENRY HORNBOSTLE, CONSULTING ARCHITECT



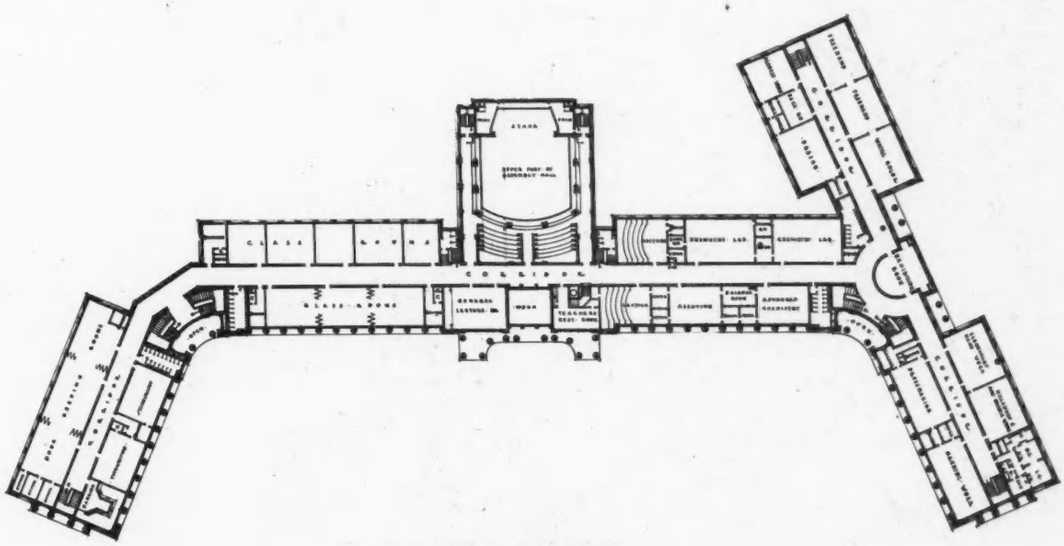
VIEW FROM THE NORTH EAST, SHOWING FRONT OF SHOPS

OAKLAND TECHNICAL HIGH SCHOOL, OAKLAND, CAL.

JOHN J. DONOVAN, ARCHITECT, HENRY HORNBOSTLE, CONSULTING ARCHITECT

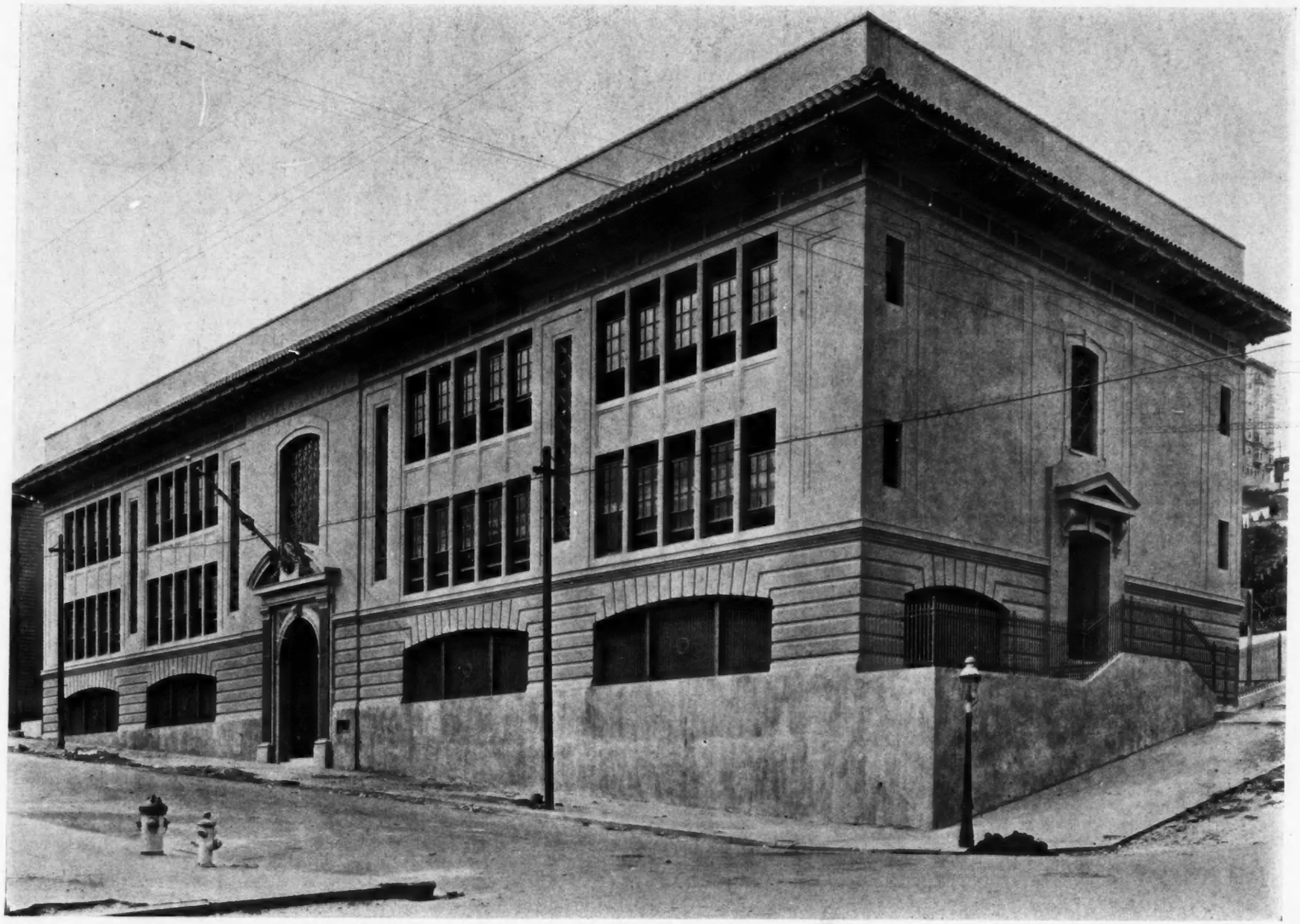


FIRST FLOOR AND PLAT PLAN



SECOND FLOOR PLAN

OAKLAND TECHNICAL HIGH SCHOOL, OAKLAND, CAL.
JOHN J. DONOVAN, ARCHITECT, HENRY HORNBOSTLE, CONSULTING ARCHITECT

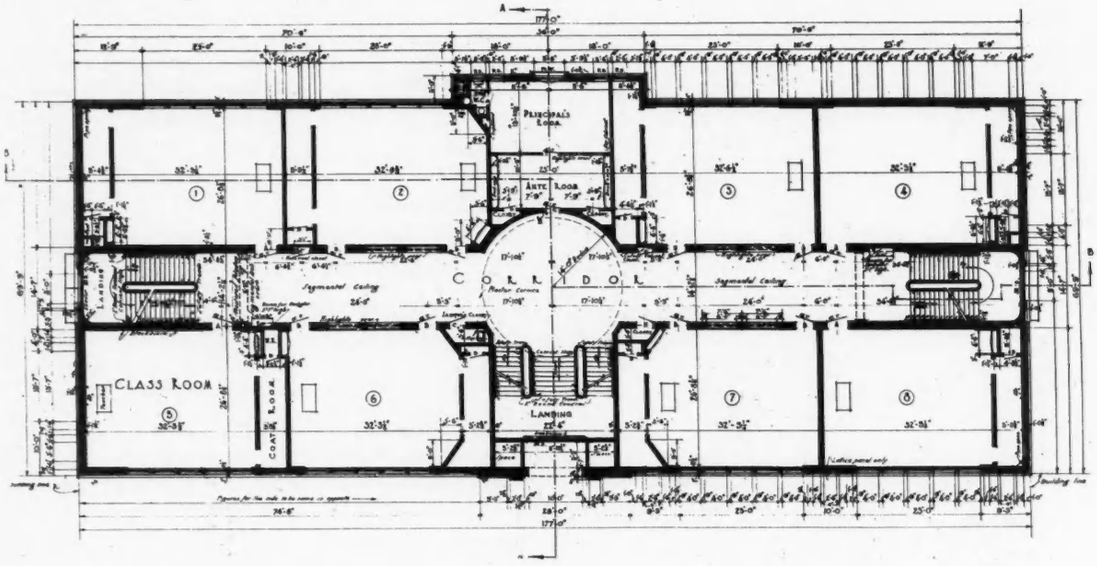


COOPER SCHOOL, SAN FRANCISCO
HOUGHTON SAWYER, ARCHITECT

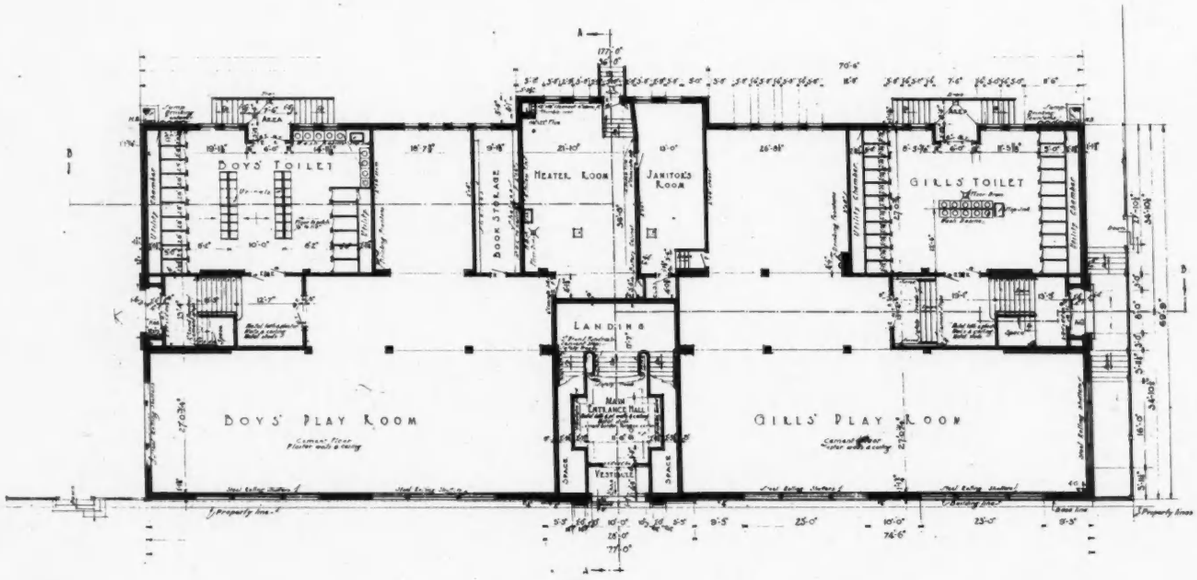
ENTRANCE DETAIL

COOPER SCHOOL, SAN FRANCISCO

HOUGHTON SAWYER, ARCHITECT

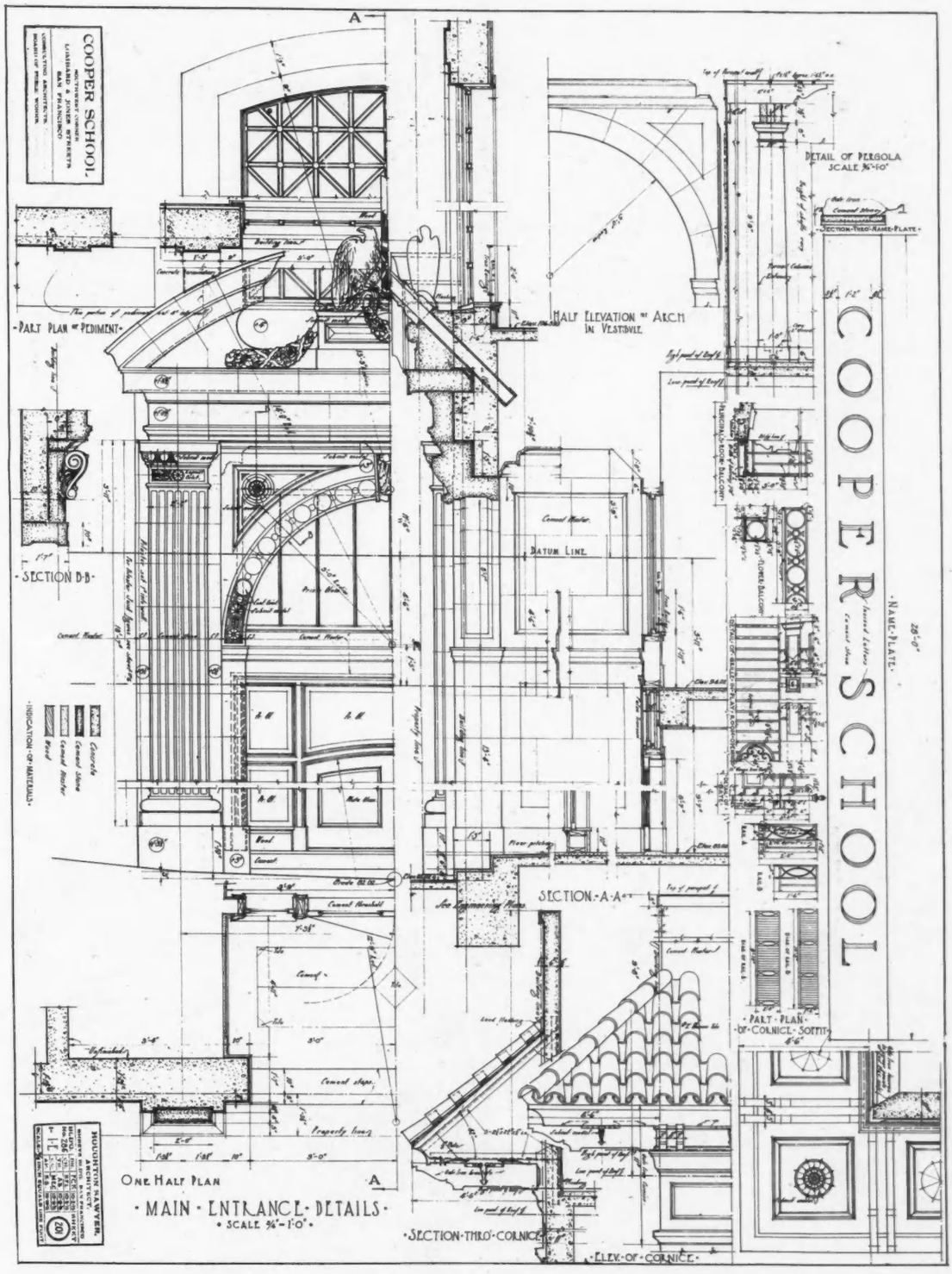


FIRST FLOOR PLAN



BASEMENT FLOOR PLAN

COOPER SCHOOL, SAN FRANCISCO
HOUGHTON SAWYER, ARCHITECT

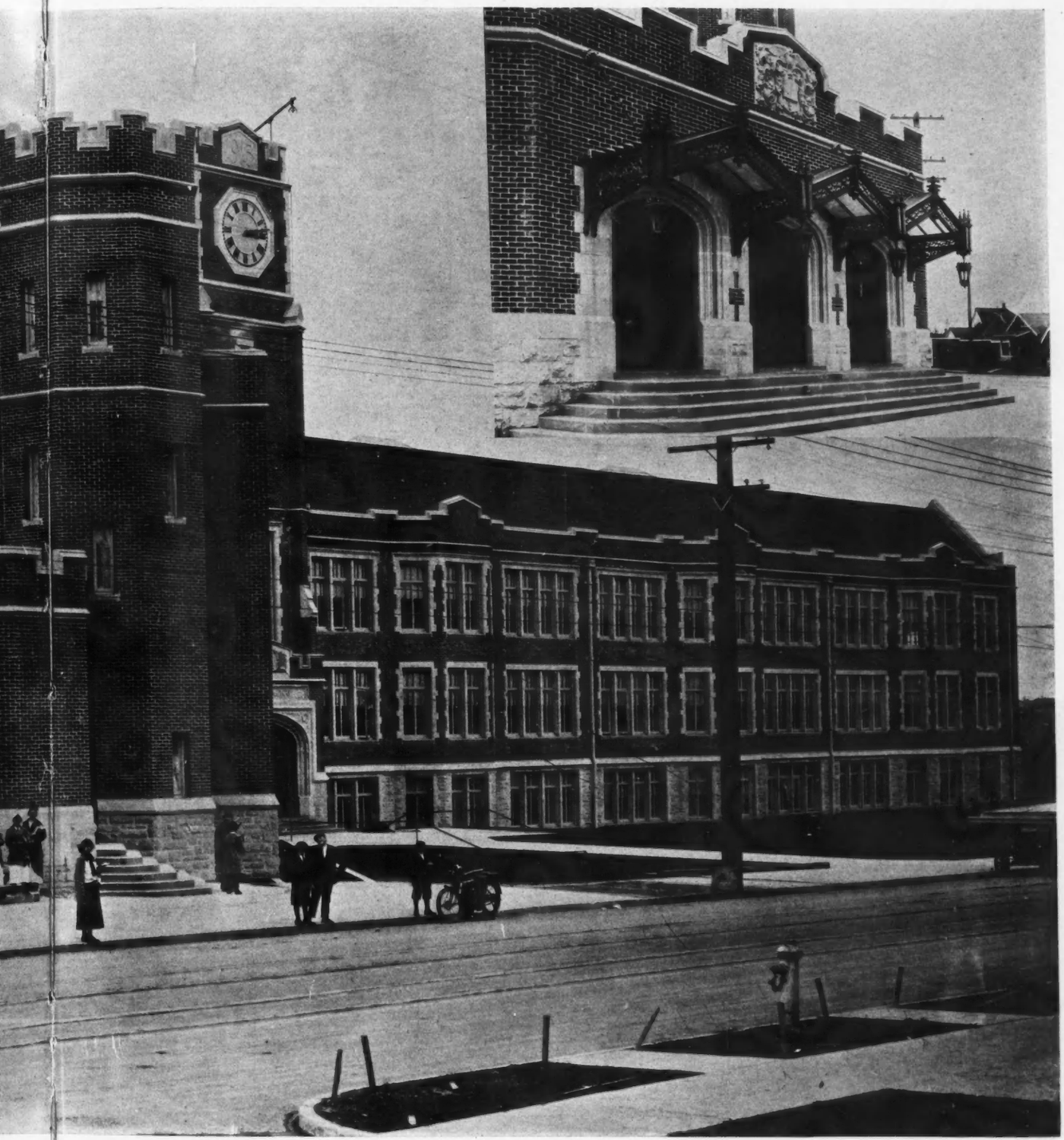


MAIN ENTRANCE DETAIL

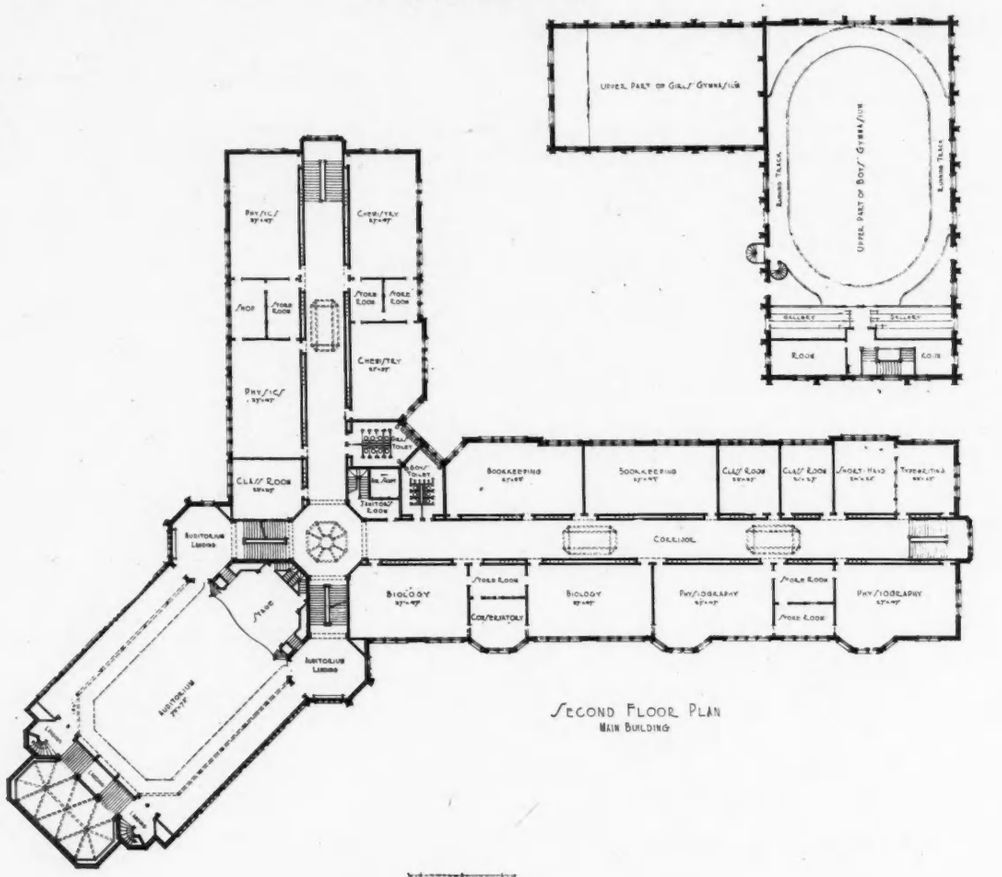
COOPER SCHOOL, SAN FRANCISCO

HOUGHTON SAWYER, ARCHITECT

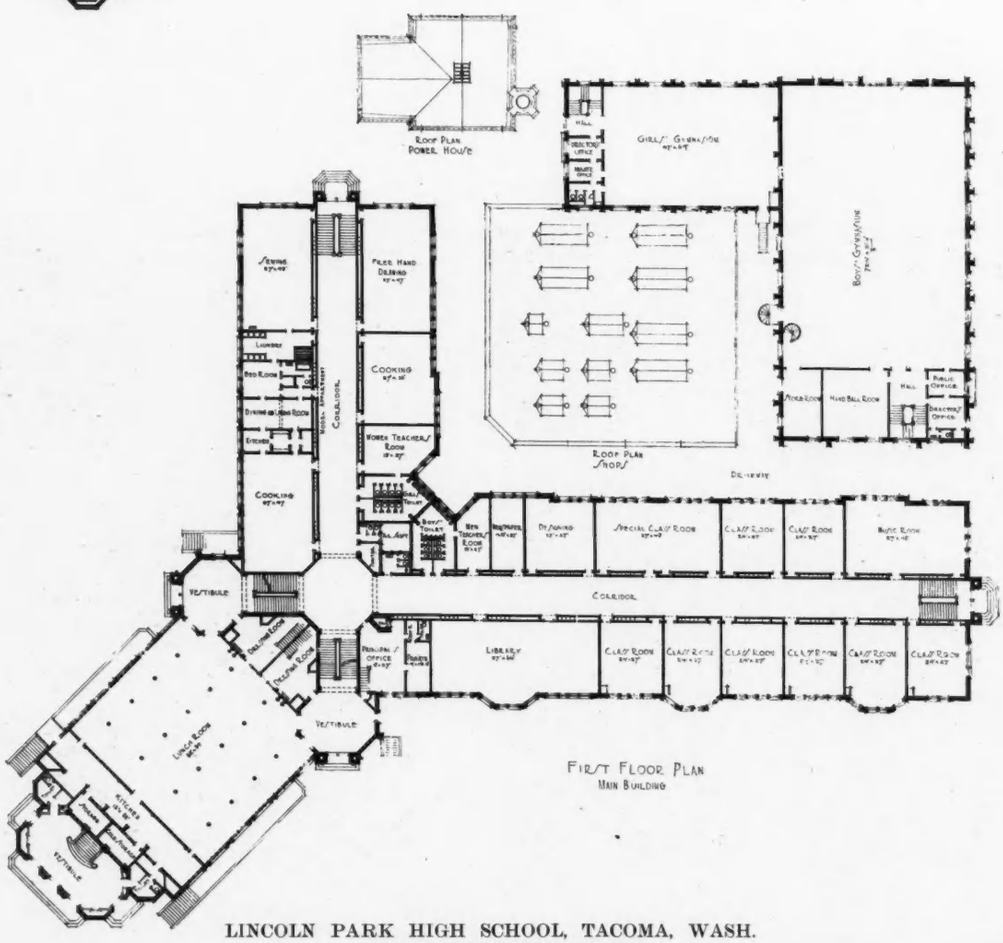
LINCOLN PARK HIGH SCHOO
HEATH & GOVE, ARC



HIGH SCHOOL, TACOMA, WASH.
H & GOVE, ARCHITECTS

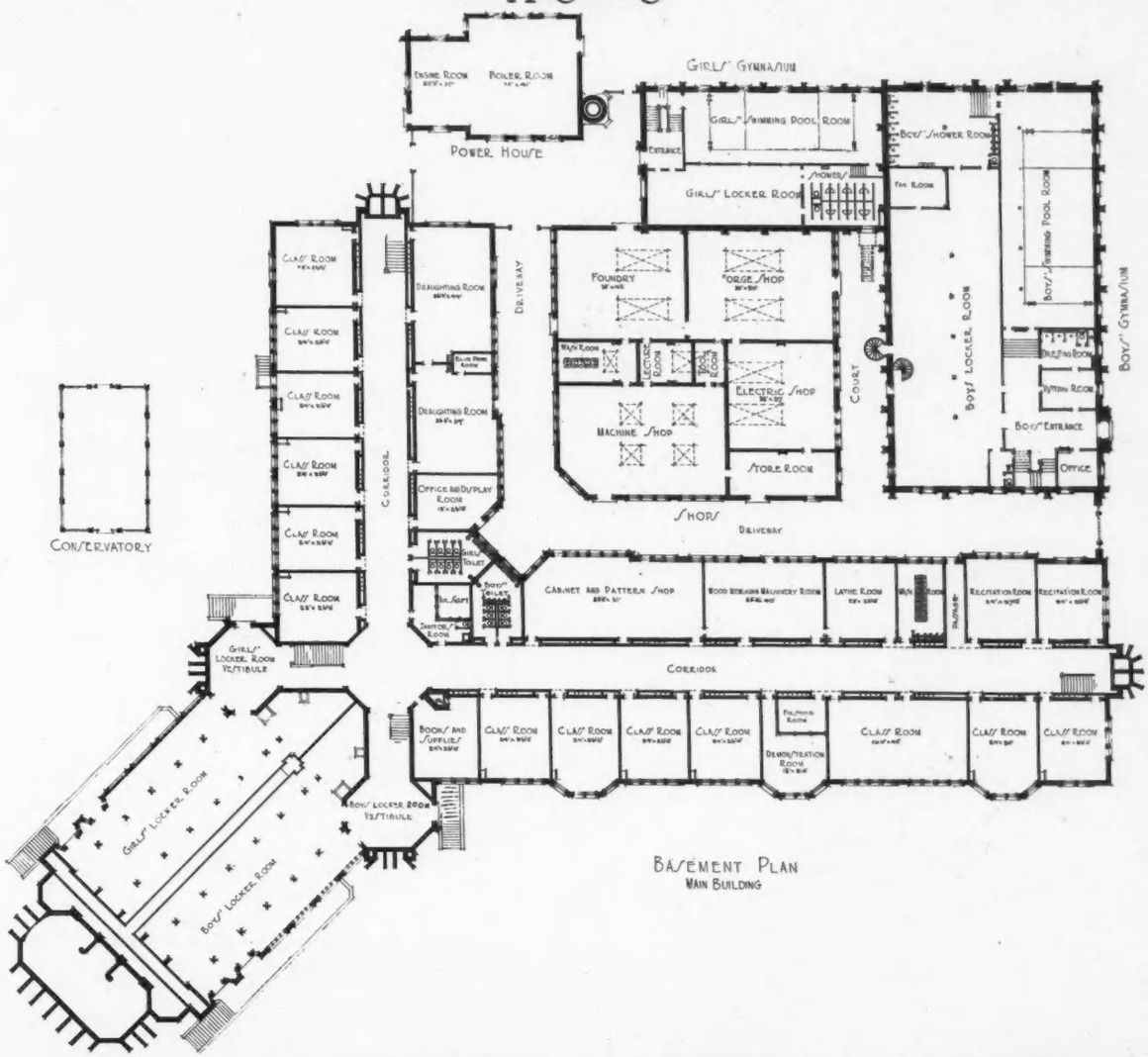


SECOND FLOOR PLAN
MAIN BUILDING



FIRST FLOOR PLAN
MAIN BUILDING

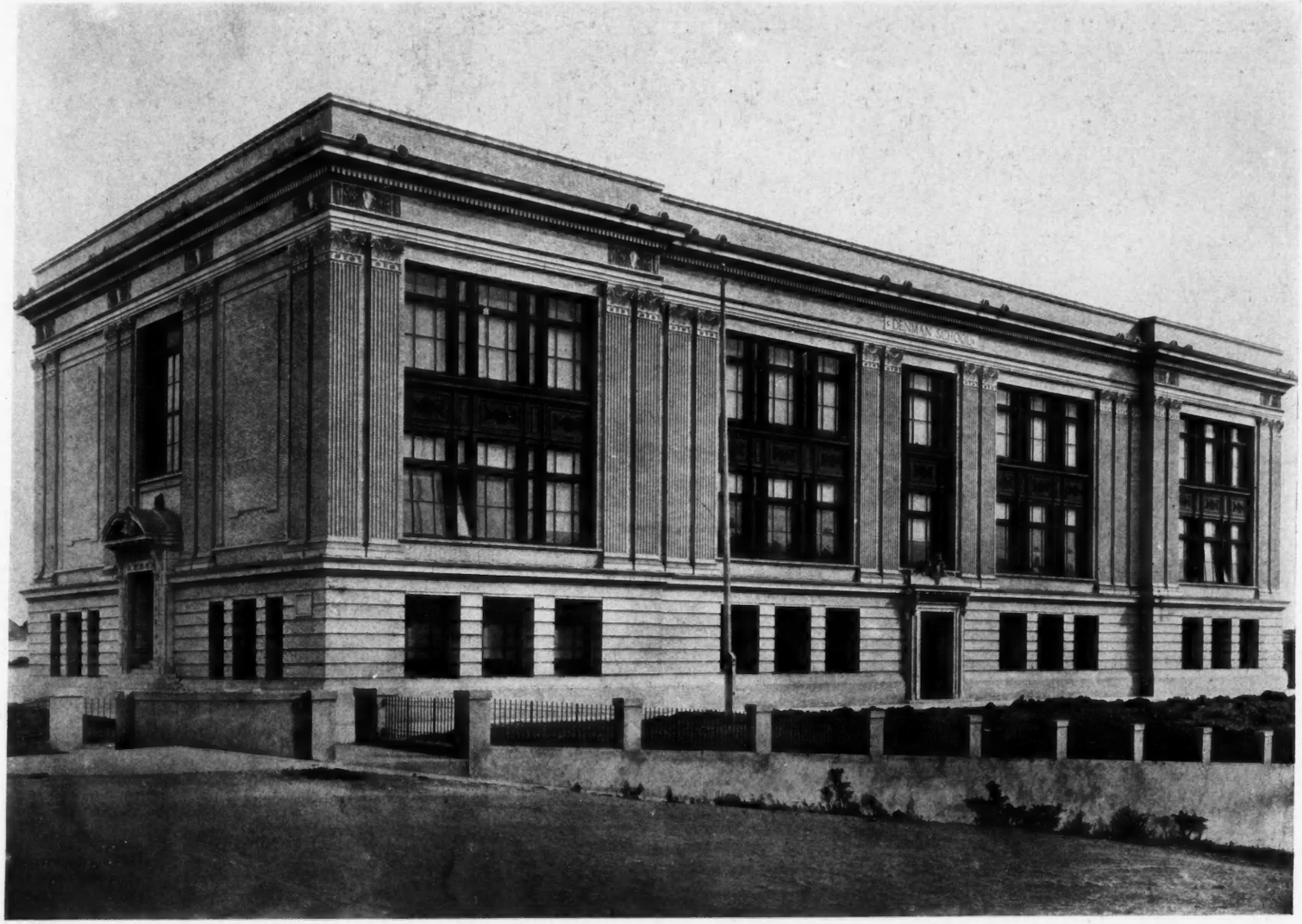
LINCOLN PARK HIGH SCHOOL, TACOMA, WASH.
HEATH & GOVE, ARCHITECTS



BASEMENT PLAN
MAIN BUILDING

DETAIL OF DOORWAYS

LINCOLN PARK HIGH SCHOOL, TACOMA, WASH.
HEATH & GOVE, ARCHITECTS

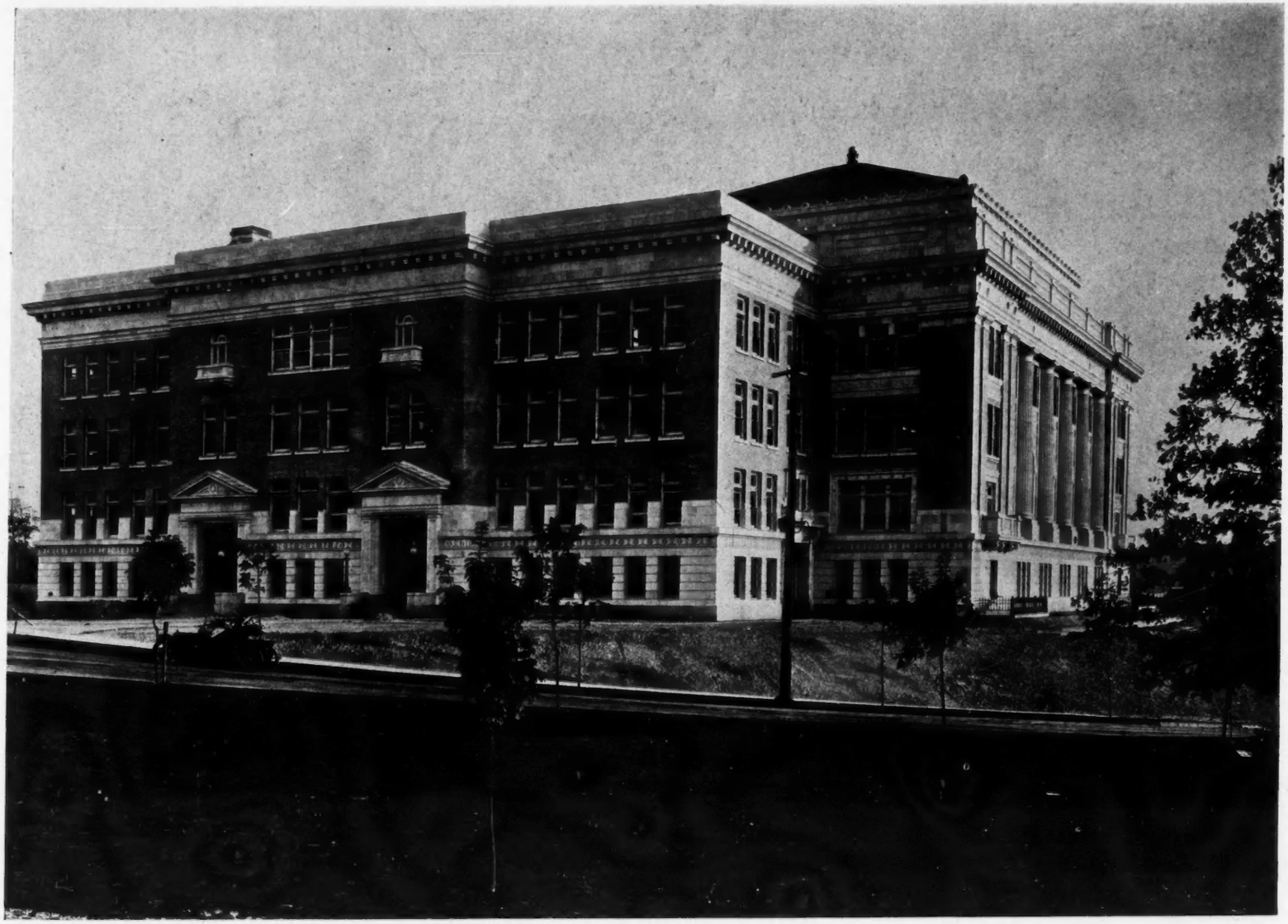


THE DENMAN GRAMMAR SCHOOL, SAN FRANCISCO
LORING P. RIXFORD, ARCHITECT

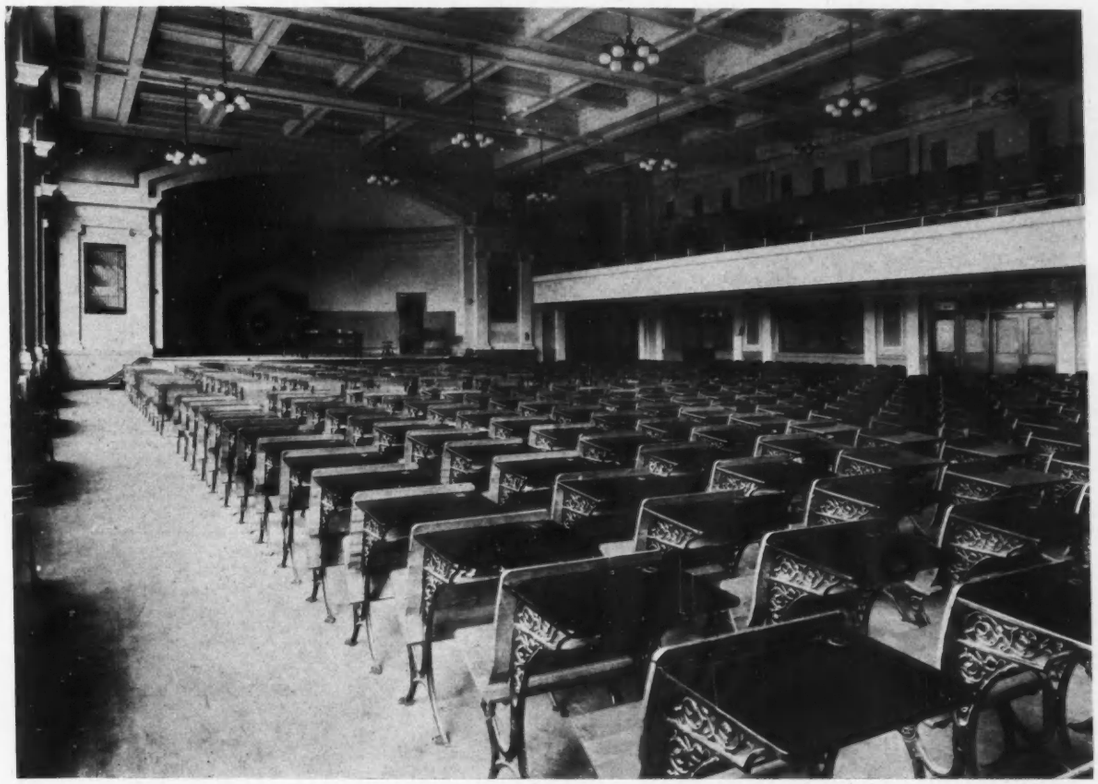
MAIN ENTRANCE DETAIL

THE DENMAN GRAMMAR SCHOOL, SAN FRANCISCO

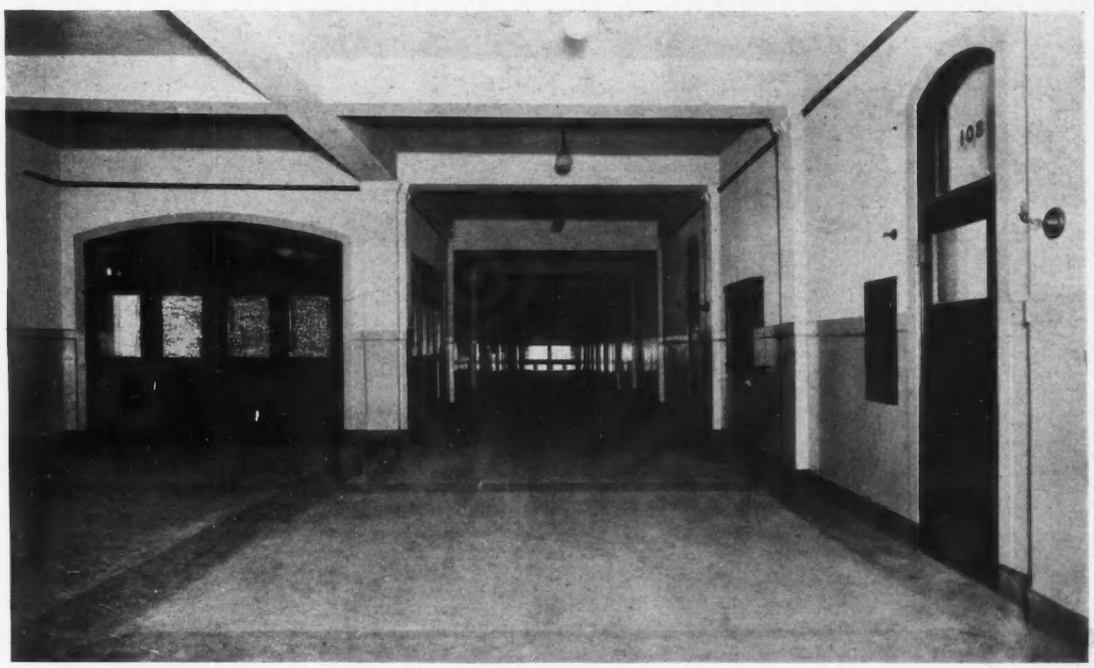
LORING P. RIXFORD, ARCHITECT



FRANKLIN HIGH SCHOOL, SEATTLE, WASH.
EDGAR BLAIR, ARCHITECT



AUDITORIUM



CORRIDOR

FRANKLIN HIGH SCHOOL, SEATTLE, WASH.
EDGAR BLAIR, ARCHITECT

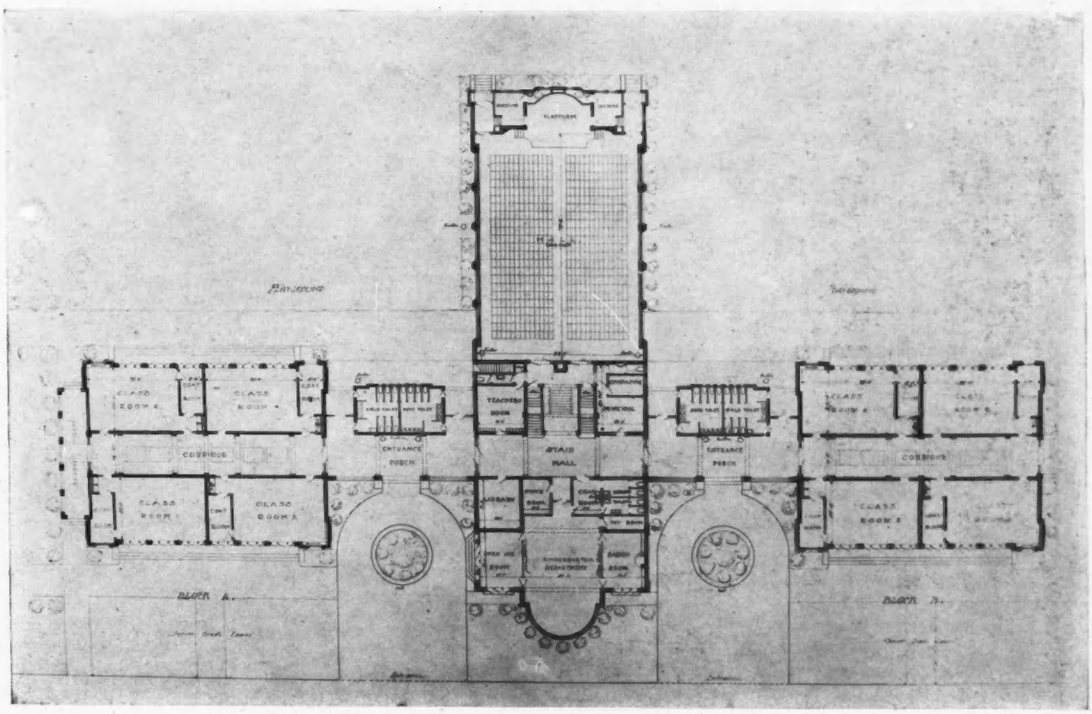
GENERAL VIEW

LOWER-GRADE CLASSROOM SHOWING FOLDING DOORS

CORONADO SCHOOL, CORONADO, CAL.

QUAYLE BROS. & CRESSEY, ARCHITECTS

VIEW THROUGH CORRIDORS



FLOOR PLAN

CORONADO SCHOOL, CORONADO, CAL.

QUAYLE BROS. & CRESSEY, ARCHITECTS

DETAIL OF FACADE

CORONADO SCHOOL, CORONADO, CAL.
QUAYLE BROS. & CRESSEY, ARCHITECTS

Description of Coronado School

This school was completed late in 1913, and is situated on what is practically an island of San Diego Bay, the general scheme being arranged for additional units balancing the present classrooms more or less without extra administrative rooms.

The Auditorium seats 600 persons in the central building, which also contains the kindergarten and staff rooms on the ground floor with rooms for domestic and ungraded work on the upper floor. A roof balcony connected with the upper rooms serves as an open-air cafeteria, the provision of meals being a feature of the school.

lighting is by electricity. General construction is reinforced concrete throughout, with natural tile main roof and composition flat roofs.

Toilets are arranged to segregate juniors from older pupils, in one-story, dis-connected, buildings, avoiding noise and incidental defects, due to sanitary fixtures within a school.

Floors are maple, in rooms, cement in corridors, and tile in toilet rooms. General trim is birch, stained, bronze green. Wainscots are enamelled. Color scheme is in Nile green and cream.

The total cost of the work, including fixtures and

CONVENIENCE OF OUT-OF-DOOR INSTRUCTION
CORONADO SCHOOL, CORONADO, CAL.

Two single story wings contain the classrooms, each room having French casement doors one full side and transoms occur full length of classrooms above the blackboards on the opposite wall, the special feature of these, apart from cross ventilation, being afternoon sunshine in east rooms and morning warmth to westerly rooms. There are no grade rooms exposed to south sun glare. The high level transoms have proved entirely successful, there being no ill effects of cross lighting, ground glass was, however, used as a precaution.

The main floor level is raised only 18 inches above, the omission of the customary school basement and resulting steps having proved advantageous in many ways and largely responsible for the system of short intermissions between periods, for open air exercise. Dismissal occurs through the casement doors, leaving the corridor and other classes undisturbed. The boiler room will provide for future additions, and an axial tunnel gives access freely to all pipe systems. Steam heating, by direct radiation is used, gravity system, and

equipment other than desks and loose furniture, amounted approximately to $90,000. Natural ventilation is relied upon entirely with good results, there being a system of fresh air inlets and exhaust throughout. The auditorium had provision for fan exhaust as auxiliary to natural outlets, but so far the fan has not proved necessary under crowded conditions.

Blackboards are natural slate from Pennsylvania.

There is a complete program clock and gong system, automatically recharged, installed to the Standard Electric Time Company's directions.

The Kindergarten is considered unique, the circular end being planned to admit sunlight for the full time of the infants' session and an open-air sun room to the south is also provided, together with a babies' room, which has a fireplace, also a toy room adjoining. The architects generally aimed to obtain a school true to California conditions, and distinct from the standard type of building original to eastern States. Quayle Bros. and Cressey, San Diego, were the architects.

The Advent of the Fireproof School in San Francisco.

By LORING P. RIXFORD

We are too prone to look upon the great fire of 1906 as a calamity and to forget the great benefits we have reaped from it.

Not the least of these benefits was the destruction by fire of the old wooden schools of San Francisco, those wood frame buildings, which were not only badly lighted and badly planned but a menace to the safety of our children.

Before the great fire San Francisco could boast of only eight schools which made any pretense at being fire-resisting, and even the new schools which had been planned and partially constructed under the old bond issue, were planned as either frame or Class "C" buildings.

Of the eight Class "C" schools which were occupied before the fire, six were built between 1854 and 1867. The two high schools, the Girls' and the Mission, were of later construction, but no better from a fire standpoint. The Girls' High School, built in 1890, was so badly damaged by the earthquake that it was thought advisable to demolish it. The Mission High School was the only brick school which went through the disaster unscathed. This building, although the Class "C" type, is fairly well arranged and will serve its purpose for a number of years. It should, however, have been built Class "A."

The great problem, and I will say, opportunity, of the Taylor administration was not only to replace the thirty schools which had been destroyed, but to rebuild them fire and earthquake proof.

The confidence of the people enabled the administration to place before the voters of San Francisco a bond issue of $5,000,000 for schools.

The money was voted as follows:

12 Class "A" Schools	$1,480,000
19 Special Construction Schools	1,685,000
3 Class "A" High Schools	1,240,000
Additional School Sites	595,000

The Class "A" schools were to be of the highest type of school construction. The "Special Construction" schools, although not strictly fireproof, were to be built with especial view towards resistance to earthquake and the wood frames were to be covered with entirely on exterior and interior and under all finish floors, with metal lath and plaster, and all woodwork necessary for finishing purposes on both exterior and interior, including frames and sash, to be covered with sheet metal.

It was the duty of the newly appointed City Architect, Mr. Newton J. Tharp, to design and construct these thirty-four new schools, and the beauty of design of a number of the earlier schools, such as the Mission Grammar, the Garfield, the Jean Parker and the Commercial High School, attest to his ability as a designer and architect.

The untimely demise of Mr. Tharp left his work uncompleted, and it was the opportunity of the writer to take up the work of the City Architect's office, construct the schools designed by Mr. Tharp and to design and construct the remaining schools.

Of the thirty-four schools called for by the bond issue of 1908, Mr. Tharp made designs for twelve, namely, the Mission Grammar, South End, Bryant Cosmopolitan, Sutro, Madison, Frank McCoppin, Garfield, Commercial High, Hancock, McKinley, Clement and Jean Parker, but was able to see only six of them started.

The writer assumed the office of City Architect June 3, 1909, supervised the making of the detail drawings of and the construction of all the schools designed by Mr. Tharp. He also made designs for the following nine schools: the Farragut, Sheridan, Denman Grammar, Franklin Grammar, Spring Valley, Cleveland, Holly Park, Longfellow and Adams, five of which (including the Denman Grammar, of which this issue of the "Architect" contains illustrations) were contracted for during his incumbency as City Architect.

The Denman Grammar School was the first Class "A" school designed by the writer on assuming the work, and is an excellent type of brick architecture as applied to fire-proof construction. It is strongly influenced in its detail by the Italian Renaissance.

The classic lines of the building give it great dignity, especially in its sightly location on the eminence at Hayes and Pierce streets, having as foreground the beautiful green trees of Alamo Square. The simple order treatment, the fluted Corinthian pilasters, with iron fill between, was an original motive as applied to school architecture. It was considered so successful that the motive was repeated with slight modification in the Girls' High School on Geary and Scott streets.

Since the writer's resignation as city architect three Class "A" schools have been built, namely, the Girls' High School, the Lowell High School and the Polytechnic High School.

May the good work continue and may the succeeding administrations be liberal enough in their appropriations for schools to enable the more important school buildings at least, to be built of Class "A" Construction, with steel frame and strictly fire-proof materials throughout.

LANDSCAPE DEVELOPMENT OF SCHOOL GROUNDS
Continued from page 106

Around the boundaries of the grounds should be planted some of the larger varieties of trees, far enough apart to permit of full development and healthy growth. Here in California there is a decided preference for the broad-leaved evergreen varieties and they should be selected according to their adaptiveness to local climatic and soil conditions. When grounds are large enough to permit of more than the boundary planting, groupings of various other kinds of trees may be made, particularly in the corners, where they will not crowd upon the play areas. Individual specimens may stand out from such groups or may be planted near the building for the purpose of shade or direct embellishment.

When Nature has so lavishly bestowed upon us such a wealth of ornamental flowering shrubs, it is surprising that they are so sparingly used. Shrubs and herbaceous materials are particularly valuable for planting on small school grounds where there is not much room for large trees. As a rule, they should be arranged in irregular masses in corners about the grounds, and particularly about the base of the building. A judicious arrangement of such material breaks the base-line of the building and ties it to the surrounding landscape. Shrubs may also be used in mass to define entrances, to emphasize curves in walks or drives, or to screen objectionable objects. They should never be scattered promiscuously as individual specimens over a large area, and should never be planted in regularly defined beds in the center of lawn areas or where they will interfere in any way with general playground features.

Panic Bolts a Necessity

The improvement in design of school buildings, theaters and auditoriums, and the increased number of exits provided has brought about a demand for devices that will permit the opening of exit doors instantly, and automatically.

It is true some State laws, and still other city ordinances have for some time provided that doors to buildings of this type open out. Now custom, if no other reason requires this.

The accompanying illustration shows a pair of entrance doors to the Oakland Technical High School equipped with the Russwin Panic Exit Bolts. This is typical of the Oakland school equipment. The doors open out; one door is bolted top and bottom, and the bolt ends are retracted and the door released by pressure on the bar running across the door. The other door is supplied with a lock that is operated from the outside, the same as any other lock, and from the inside by the bar across the door. The bars extend across the entire opening and in the event of panic or excitement, any pressure, no matter how slight against these bars will release the doors, which open out the way the "crowd" is going.

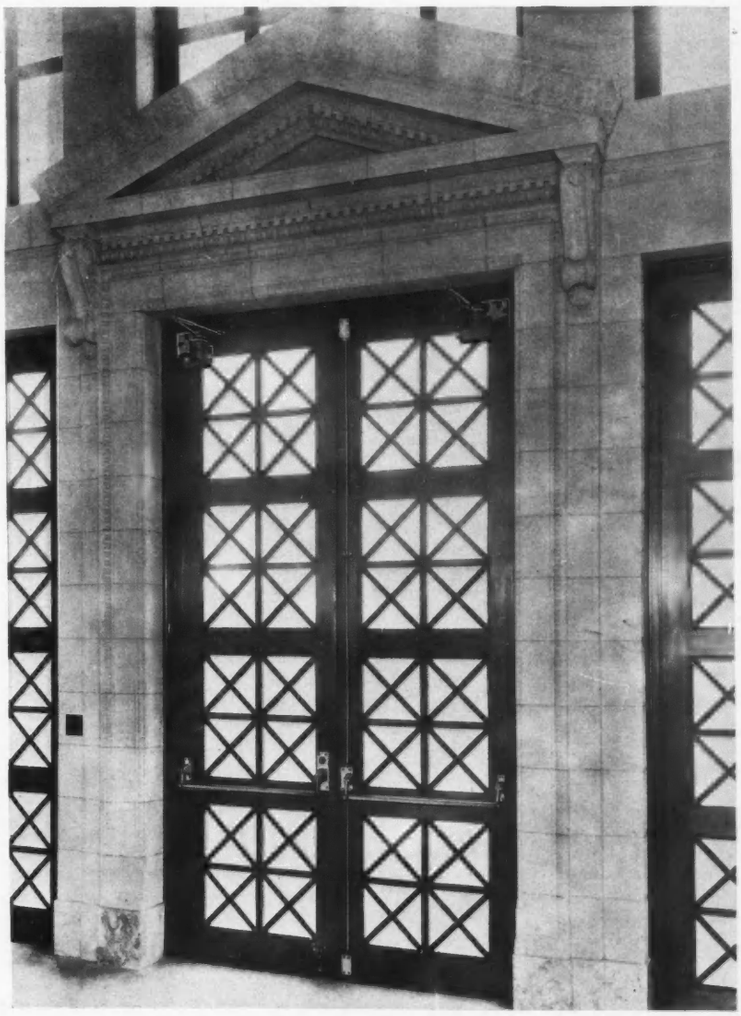
A feature of the lock used on the entrance and exit doors to the Oakland schools, is that there is no stop-work in the face of the lock, as is usual to deadlock the outside knob, or thumb latch. This function is provided by means of an inside cylinder set only to the Janitor's master key, and permits him to control the locking up of the building at all times, and prevents tampering with the locks by any one. The Latch bolts are also held in a retracted position by the inside cylinder, and both doors are supplied with door checks and are both operative at all times.

Class room doors open out into corridors, and are supplied with special type of lock, making it impossible to inadvertently lock anyone in when locked from the corridor side to prevent anyone gaining an entrance to the room.

With doors opening in the same direction taken to reach an exit, life is safeguarded, and the hardware equipment of the Oakland schools aids this ideal condition.

It has been truly said that the school holocaust is among the most terrible and pitiable of public disasters; its loss far beyond any money value. The Russwin Panic-Exit Bolts have been designed to make such catastrophes impossible. The principle of their construction is to insure certain action and absolute dependability, the pressure of a child's hand or body being sufficient to unlock them.

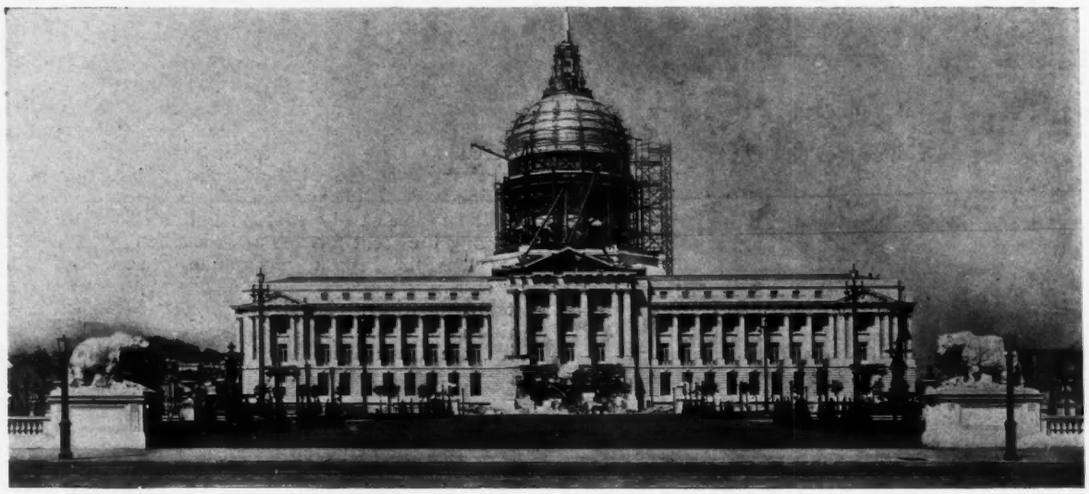
The bolting elements, of which there are two, one at the top and one at the bottom of the door, are made of cast bronze, and automatically lock when the door is closed. Number 787 has an easy spring action, Number 788 a special type of anti-friction latch, approved by the New York Board of Fire Underwriters. A substantial bronze bar extends horizontally across the face of the door, and, when the door is closed and bolted, a slight pressure upon the bar instantly releases the bolting elements from the strikes.



INTERIOR DETAIL OF DOORWAY IN OAKLAND TECHNICAL HIGH SCHOOL SHOWING THE APPLICATION OF RUSSWIN PANIC-EXIT BOLTS, FURNISHED THROUGH THE MAXWELL HARDWARE COMPANY

These bolts are intended for use on doors which are used only for exit and that are in daily use, as, for example, theater exit doors. The advantage of this type of bolt is in the self-latching bolts, as the action of closing the door automatically locks it, and no particular care or inspection is required to be certain that the doors are properly locked after being in use.

Russell & Erwin Manufacturing Company has issued a special catalogue on Russwin Panic-Exit Bolts, which reproduces various illustrations, showing the action of these bolts, and which has proven interesting to architects.

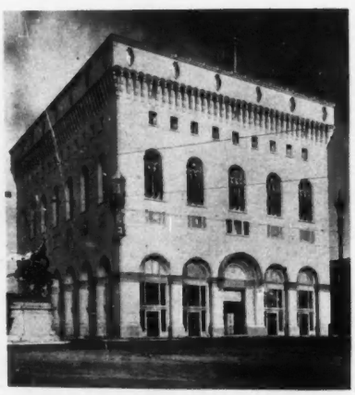


CUT SHOWS PROGRESS ON NEW CITY HALL, SAN FRANCISCO, BAKEWELL & BROWN, ARCHITECTS

Interior Plastering

Interior plastering is a subject of great importance in the preparation of specifications for any building. The ideal plastering mortar should be made up of materials that will not deteriorate with age, should be tough and strong, not too expensive, should not rust or corrode metal lath nor disturb the acoustics of any part of a building.

Lime mortar has been in use for many centuries and is known to be a material that will neither deteriorate with age, nor rust or corrode metals, there being records showing that iron which had been imbedded in lime mortar for fourteen hundred years was found to be in a perfect state of preservation when removed. The sound deadening property of lime mortar is an important and acknowledged characteristic. One of the most eminent acoustic experts of the country has said that for auditoriums, schools, churches theaters the use of common gypsum or hardwall plaster should be avoided on account of its lack of sound deadening properties. The one quality lacking in lime mortar to make it the universal plastering material, is strength, and to acquire this quality architects of Europe and of this country, in the highest grade buildings, have for many years been adding a percentage of Keene Cement.



MASONIC TEMPLE, SAN FRANCISCO
BLISS & FAVILLE, ARCHITECTS

Keene Cement, named after the discoverer of the process, is a material known to all builders and architects, but until recently has been considered too expensive to use generally as a gauging material for lime mortar to be used for the scratch and brown coats. There is no doubt but that this combination of materials would have been commonly used in the past if it were not for the heretofore high cost of the cement. A mixture of this cement and lime is a most consistent chemical combination, there being an affinity between the lime and the cement, thereby making a perfect combination of elements affording a strong and everlasting mortar which will not deteriorate with age, which will afford sound deadening properties, be far less likely to develop lath cracks on account of it being slower setting and be always uniform.

On account of the "fatness" of the material, the cost of labor in spreading or applying is greatly reduced and the amount of waste from droppings is reduced to a minimum.

OLYMPIC CLUB, SAN FRANCISCO
PAFF & BAUR, ARCHITECTS

Keene Cement has been used extensively in the United States for a great many years in the manufacture of scagliola, or imitation marble, and for use in the finishing coat where a first class finish was required. It can now be obtained on the Pacific Coast at a cost low enough to permit of the gauging of old fashioned lime mortar and make the same stronger than the common gypsum or hardwall plasters in common use and at no greater expense. Many such buildings as shown in this article have been recently plastered throughout with

Keene Cement gauged lime mortar in the scratch and brown coats.

The plastering work in the new Five-Million-Dollar City Hall (cut shown in article) erected in San Francisco, was completed with most satisfactory results. The lime was slaked on the first floor of the building and was run by gravitation into the putty storage bins in the basement, where it was aged for at least two weeks. The mixing machine was located adjacent to the sand pile and putty storage bins and was power operated. The operation was simple and inexpensive. The specified amounts of sand, putty and Keene Cement were thoroughly mixed and then distributed in concrete carts holding six cubic feet each. This mortar can safely be remixed as often as necessary. If it starts to set up or harden on the mortar boards or where droppings have accumulated the same can be tempered by adding a small quantity of water and re-mixed. This operation will not "kill" the setting properties of the mortar. It is the absence of unsanitary retarders and the close, dense, germ-proof texture of this plaster that has been responsible for its use in a great number of schools, hospitals and other buildings where sanitation is an important factor.

POLYTECHNIC HIGH SCHOOL, SAN FRANCISCO
A. L. Worswick, City Architect; John Galen Howard, John Reid, Jr., Frederick H. Meyer, Associate Architects.

The time of set of lime mortar is accelerated by the addition of the Keene Cement, but generally takes from two to three days for the scratch coat to set sufficiently to allow the brown coat to be applied. The ultimate finish of the building is not delayed, however, for it takes no longer for this mortar to dry out than hardwall plaster. The mortar sets and hardens slowly and grows stronger and more durable the longer it stands.

PHYSICIANS BLDG., SAN FRANCISCO
Frederick H. Meyer, Architect

In some of the larger cities on the Pacific Coast, responsible mortar mixing concerns have been able to manufacture a ready-mixed mortar in accordance with architects' specifications which is delivered to buildings ready to apply on the lath. The comparatively slow "set" of Keene Cement permits the gauging of lime mortar at a mortar plant and allows ample time for delivery, as the same can be used within forty-eight hours after delivery without retempering. Economy is the result of such delivery, in saving expense of installing mixing equipment, and to have mortar delivered when needed, and thus facilitate the construction work.

The common gypsum or hardwall plasters made from gypsum or calcium sulphate (Ca So-4) are manufactured by calcining ground gypsum at a temperature of approximately 300 deg. to 340 deg. Fahrenheit for a period of from two to three hours' time and thereby driving off some of the water of crystallization and not otherwise changing the gypsum chemically. This calcined material is known as plaster of Paris and to facilitate the handling of same is retarded with animal matter to regulate the time of setting. This plaster is deliquescent and has a marked affinity for atmospheric moisture. The sulphuric element is conducive to rust and corrosion of metal.

Keene Cement is made from pure gypsum, which is calcined in kilns for several days at extremely high temperature, which completely eliminates the sulphur or corrosive element, leaving a dead, inert form of calcium as a result. This material is ground to an impalpable powder, about 95% passing a two hundred mesh screen. Chemicals of uniform quality and amount are added to a weighed amount of calcined gypsum, resulting in a perfectly uniform product, the tensile strength being above seven hundred pounds per square inch.

The scratch coat should be mixed in the proportion of one hundred and seventy-five to two hundred pounds of Keene Cement to each cubic yard of sand used. The mortar to be mixed with one part of aged lime putty to three parts sand. The brown coat can be mixed with about twenty-five per cent less cement. The finishing coat should be specified, one part Keene Cement, to from one to two parts lime putty. If a sand finish is specified it should call for one part Keene Cement to two parts clean, sharp sand.

One of the many worthy characteristics of a Keene Cement mortar is that there is no element present that will affect the most delicate tinting or frescoing, and it is real economy to cover all surfaces with this material, which forms a base that is inert, dense and permanent, and will not fade or affect any colors applied over it. The same can be applied as soon as the surface is dry.

Keene Cement gauged lime mortar, unlike gypsum or hardwall plaster, forms a perfect bond and adheres to concrete surfaces.

It is most fortunate that the art of manufacturing this cement has been carried into this country from abroad and thus make it possible to use this remarkable material in building work of all classes. Some of the purest gypsum in the world is found in America and in inexhaustible deposits.

The use of Keene Cement extends over many scores of years, and it is certainly past the experimental stage. In all cases where this plaster has been used entire satisfaction has been the general result.

T. & D. THEATER, BERKELEY, CAL.
A. W. Cornelius, Architect

A Perfect Window for Schools and Open Air Classrooms.

This window contributes a maximum of ventilation, furnishing and supplying an abundance of air even to the full capacity of its opening, and will convert schools into open air class rooms when sashes are in an open position.

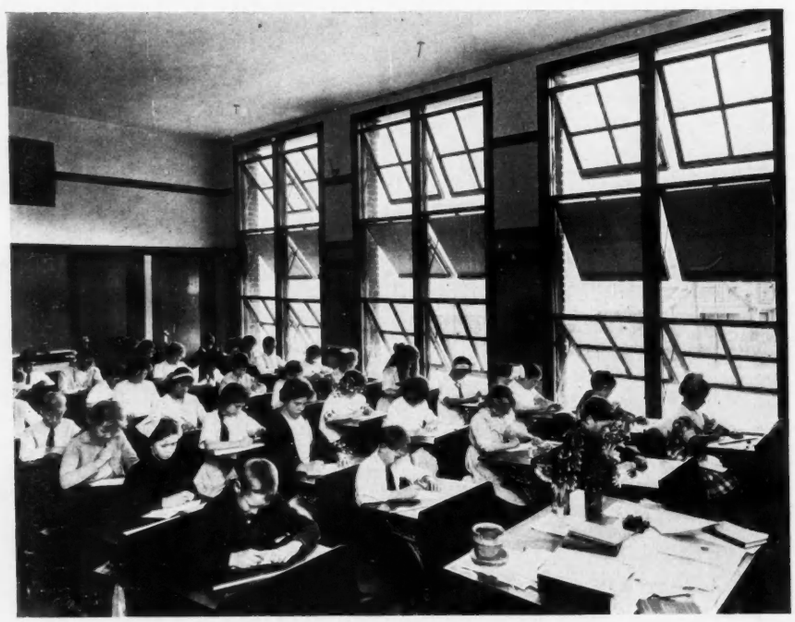
position of the sashes when open the maximum of fresh air can be secured and is forced upward and inwardly into the interior of class-room, where it distributes itself to all parts and portions of room without the usual drafts which invariably is evident when ventilating by means

EMERSON SCHOOL, OAKLAND, CAL.
JOHN GALEN HOWARD, ARCHITECT — JOHN J. DONOVAN, SUPERVISING ARCHITECT

Sashes when closed form a tight contact with stops and when weather striped with Simplex weather strips, made especially for this purpose, and which forms an absolutely air-tight contact with the inner stops, makes and forms a window that is perfect in its movements and operation and unrivaled in its weather proofing, ventilating and open air features, solving all problems and supplying all requirements that could possibly be expected of a window.

For school purposes Simplex windows are usually made three sashes high and bottom sash extends down to or within six inches of the floor. Owing to the tilted of the old style windows. Another very important feature secured by ventilating with "Simplex Windows" is the illumination of foul and exhausted air which accumulates at floor level and contains a large percentage of Carbon Dioxide Gas; this is automatically forced out through the lower sash opening and the air in class rooms is kept pure and healthful.

These windows furnish an abundance of air and light to schools and have proven themselves to be in every way satisfactory. By equipping each sash with shades the sashes, when open, forms an awning for windows and protection from the sun.



TYPICAL INTERIOR VIEW OF CLASS ROOMS, OAKLAND SCHOOLS
JOHN J. DONOVAN, ARCHITECT, OAKLAND, CAL.

Throughout the coast States, and Utah, Arizona and Texas some six hundred schools are equipped with and are using these windows, and they are being rapidly introduced and specified throughout the East.

While this window is particularly suitable for schools, it is also adapted and now in use in all kinds and classes of buildings and residences, hospitals and fireproof structures.

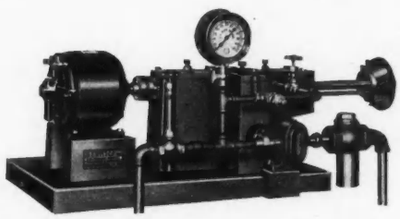
The Simplex Casement is a very artistic window and also reverses for cleaning, requiring no adjusters or other hardware to hold it open. Both types of windows can be readily and economically screened.

This latest achievement in windows is a California product.

The manufacturer and owner is The Simplex Window Company, 525 Market Street, San Francisco, and have agencies throughout the United States and foreign countries. They will be pleased to furnish catalogues, details and further information on receipt of request.

Current Notes and Comment

G. E. Witt Company's rotary oil burning system was installed in the Oakland Technical High School, Oakland, California. At this school there was developed 200 h. p. with 182.5 h. p. boiler. The amount of oil consumed and the cost of upkeep on the machine are the two greatest factors to be considered when buying a rotary oil burner. The saving made by this machine



G. E. WITT CO.'S ROTARY CRUDE OIL BURNER

over others is said to be considerable. Under test it has evaporated 15.69 pounds of water with one pound of oil. The burner has been in use in some of the largest buildings in San Francisco and Oakland; in some places running twenty-four hours per day, and three hundred and sixty-five days per year.

The G. E. Witt Company has received many letters from users of this system, stating the satisfaction this apparatus is giving, and the very simple and easy manner in which it can be taken care of. Besides the Oakland Technical High School, the Witt system has been installed in the Stanford Court Apartments, Matsonia Apartments, Federal Hotel, Sheridan Apartments and other large buildings, San Francisco. Mr. L. H. Sly, owner of the Matsonia and Stanford Court Apartments, says the system has proven entirely satisfactory, and the burners are more economical than those formerly used.

* * *

The ornamental iron work on the Cooper School, illustrated in this issue, including wrought iron fences, grilles, toilet stalls, etc., was manufactured by the Pacific Iron Works, 1155 Sixty-seventh street, Oakland, California.

The same company also furnished the ornamental iron work for a number of schools: Emerson School, Longfellow School and Tompkins School, all in Oakland; Orland High School, Monterey County High School and others. The company is thoroughly familiar with the many miscellaneous items in iron and brass required in fire houses, having executed several contracts for such work in San Francisco and across the bay. Most prominent among these is the Drumm-Street Engine House, pronounced "the model engine house" for United States.

The Pacific Iron Works is now finishing up the ornamental iron work for the Polytechnic High School in San Francisco, and has just completed a large contract of iron work for the government, installed at Pearl Harbor, Honolulu. It might be mentioned that they have been quite successful in constructing of steel, the oil supply stations, now so widely patronized by automobilists.

Besides manufacturing all kinds of ornamental iron, brass and wire work, required in public and private buildings, the Pacific Iron Works handles a very extensive line of manufactured iron fences and is about to put on the market a simplified automatic dumbwaiter, which, it is claimed, will take the place of the hand dumbwaiters, now used so extensively.

Architects, contractors and others have been unanimous in pronouncing this company thoroughly competent in handling their work and their ability to overcome all those difficulties, continuously facing the "iron man."

* * *

One of the largest and finest-finished buildings on the Pacific Coast is the $2,000,000.00 City Hall at Oakland, finished throughout with Cal-Pa-Co Flat Washable Wall Finish, manufactured by California Paint Co. of Oakland, Cal., which company was recently awarded the highest award, Gold Medal, for their product, over all others, by the P. P. I. E. Jury of Awards, who found that Cal-Pa-Co dried out with a soft flat velvety finish that was sanitary and actually washable, in that finger marks could be washed off with a high grade of soap and water without damaging the finish. Cal-Pa-Co. also was found to cover well, and to figure out remarkably cheap finish for large surfaces when the amount of surface it covers more than competitive finishes was taken into consideration, and that it never peeled, yellowed or showed gloss marks.

We understand that this fine old firm, manufacturing since 1865, also received five highest awards, including the award for the best finish for the exterior of concrete —Cal-Pa-Co Dampstop, which was the finish used on the Oakland Technical High School.

It is very gratifying to see a high-class old local concern like the California Paint Co. win out in an international competition, and we hope that the local architects will give them the support due their high class products.

* * *

During the construction of the Panama-Pacific International Exposition, the engineers selected the Fess System Rotary Crude Oil Burners for installation in the heating plants under their control. The International Jury of Awards has placed this equipment once more at the head of the list by awarding the gold medal to Fess System Rotary Crude Oil Burners, for low pressure heating boilers, and another for Fess System Range Burners—these being the highest awards possible. When this company perfected and placed on the market the Rotary Burner, it being so radically different from the method of atomizing by compressed air or steam, the skeptical ones predicted a failure. However, the results obtained have been so satisfactory that they now have many imitators, but none get the results as proven by the above awards.

* * *

The John D. Hoff Asbestos Company, whose factory is located at Pacsteel, East Oakland, is actively engaged in the various departments of the asbestos business, such as steam-pipe and boiler covering, fire-proofing and deadening.

* * *

A. C. Soule, General Manager of The Simplex Window Company, has just returned from his eastern trip and reports that final arrangements have been concluded with the Pittsburgh Plate Glass Company to handle and market their product throughout the United States, east of the Rocky Mountains. This firm is particularly well equipped for this work, having over four hundred salesmen in the field, and warehouses in all portions of the eastern territory.

Unburnable Schools

By F. W. FITZPATRICK

In matters surgical, in times of danger, people the world over agree in the theory that the child should be saved first at any cost and then its elders if possible. Apparently it is simply an inherent prompting or instinct tending toward the perpetuation of the race, the protection of those most likely to successfully carry on that work. Also in part attributable to at least a spark of chivalry left in us that prompts the protecting of the weak and defenseless.

The trait, or whatever one wishes to call it, is noticed in the care given to the construction of our schools. There is and has been a certain amount of popular opposition to the exactions of our building laws in regard to all other classes of buildings, those regulations have seemed oppressive, costly and extravagant, but there's hardly ever a protest against anything that is demanded to make our school buildings safe.

Small and poor indeed must be the town or village, or ignorant the people where a frame school building is erected today. The structural parts of school buildings are made of unburnable materials, of brick or stone or concrete or tile or stucco or wire lath, something or other that will not burn and preferably something that is not even damaged by near-by fires. The floors and partitions are of tile or concrete and steel, the stairs are unburnable and in many schools are properly enclosed in brick walls and fire doors or in wired-glass partitions so that they are even smoke proof. In fine much has been done to lessen the danger and assuring the maximum of protection to the lives of thousands and millions of children being educated by the state in state, county or municipal built structures.

Remember that the first great principle of fireproof construction is to give fire nothing to feed upon, nothing to burn. Therefore is it that we insist upon cutting up buildings into small units of space and have them so that fire originating in one space cannot communicate to the next. A fire in the contents of a class-room will burn itself out in a very little while if confined to that room, and the destruction will be only of the furniture and clothing in that room.

In the great majority of schools, even in those supposed to have been built with considerable care and with much attention to fire prevention, that cardinal principle has not been recognized. For in nearly all of them people still stick to the old notion of wooden doors and trim. They do all else fairly well but fall down there, and how human it is, too, that very trait of nearly completing a task and doing it well just to bungle it at the last by some foolish makeshift or carelessness!

With wooden doors one has not the desired divisions or units of space. Fire is given ready access to every room in the building and can only be stopped by the fire department and a flood of water that does as much damage as does the fire itself. What is the use of a fireproof partition if you nullify its quality of cutting off fire from one room to another by putting fire-inviting and highly inflammable wooden doors at convenient point? A wooden door is no more necessary or economical or desirable than is wooden clap-boarding or a wood shingle roof. The wooden door is a bad habit, ingrowing, hard to eradicate and perfectly senseless, useless and dangerous. A steel door with steel trim costs initially but little more than a wooden door. It is there for good, there is no warping and shrinking and getting out of kelter. It makes each room in a fire-resisting building a perfectly tight and unassailable unit of space. It keeps any fire that originates in that room **in** and any fire that originates outside of it **out.** It makes the carrying of insurance unnecessary. Last, but not least, it assures the positive protection of lives in that building, and in the long run, besides all the good it does and the evil it prevents, it costs less than does the wooden door.

It has taken us years to get over the bad habits of the old ways of building schools, the wooden door is the last of those habits to stick, so it's only a question of time when that too will go and when no one will tolerate anything less than steel doors in our schools—or anywhere else for that matter.

The Dahlstrom Metallic Door Company, Jamestown, N. Y., has published a new booklet, entitled "Safety First for Schools." This is the second issue of special booklets bearing on particular types of buildings, and giving reasons why Dahlstrom Products should be used in the same to insure a safe and sane fire-resisting equipment.

The booklet is well illustrated with school buildings and class rooms and is full of vital interest. It has been the experience of this company in connection with public school work, that in most cases the appropriations are entirely inadequate to enable the architect to carry out modern ideas in new school buildings and make them completely fireproof.

This booklet is designed primarily to awaken an interest in the fire-safe aspect of school buildings in the minds of members of Boards of Education and School Superintendents, so that they of their own volition, will from the beginning take steps to eliminate the obstacle of insufficient funds, the lack of which so often hampers the architect in his efforts to give the community the best.

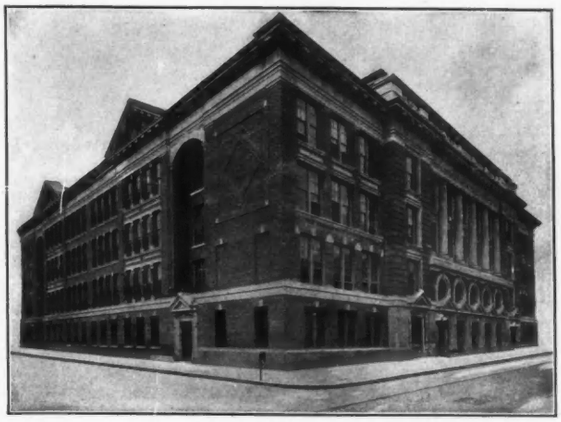
In looking over the list of schools which have been at least partly, if not in some instances fully equipped with Dahlstrom Products, we note many of the most prominent educational institutions of this country, which speaks for the value of Dahlstrom Products.

The booklet calls attention to some of the larger disasters to school buildings, in which children have either perished or their lives have been greatly endangered by fires, stating that in the first two months in 1914, damage to the amount of $1,000,000.00 was caused by fires in schools and educational institutions, besides the loss of life, which cannot, of course, be reckoned in dollars and cents.

Wooden doors are the choicest kind of morsels for a fire. It is said that millions of dollars are expended upon the exterior of school houses to make them architecturally pretentious, but within the very walls of these structures, you will find doors, door frames, windows, window sashes and wainscoting, all of fire-inviting wood, in readiness to supply fuel to the chance flame.

The Dahlstrom Hollow Metal Doors have been subjected to severe fire tests and are approved by the Underwriters Laboratories of Chicago, as well as by the British Fire Prevention Committee of London, England. They have served their purpose in actual fires and have proved to be absolutely fireproof. Dahlstrom doors are sanitary and artistic, and built to last.

This booklet also includes a most interesting report by Mr. Charles W. Armstrong, Consulting Engineer, who has made a study of public school buildings in New York City.



WILLIAM PENN HIGH SCHOOL
Philadelphia, Pa.
J. Horace Cook, Architect, Philadelphia

The Only Way to Treat Fire

Quarantine it!

Isolate it!

Let fire be its own enemy by permitting it to starve itself!

Nothing will ever prevent fires, but a serious fire is inexcusable. Fire cannot become a hazard if a building is divided into proper units.

Fire becomes a powerful engine of destruction only in proportion to what it has to feed upon. No one determines this but yourself.

The remedy: The DAHLSTROM PRODUCTS make possible the total elimination of wood and other inflammable trim. In an otherwise fireproof building the DAHLSTROM PRODUCTS make the structure a multiple of units. Each division is virtually a separate building because fire will not, cannot eat its way from one multiple to another.

Fireproofness is not all that commends theh DAHLSTROM PRODUCTS. There's the finish — costof up-keep —sanitation, — durability — each worth understanding correctly.

May we tell you--in person or by printed word?

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39 Blackstone Ave., Jamestown, N. Y.

BRANCHES AND REPRESENTATIVES IN ALL PRINCIPAL CITIES

CALIFORNIA SCHOOL HOUSE ARCHITECTURE, ETC.

Continued from page 108

use of the building has brought into play more rooms, which are different in character than the fundamental units.

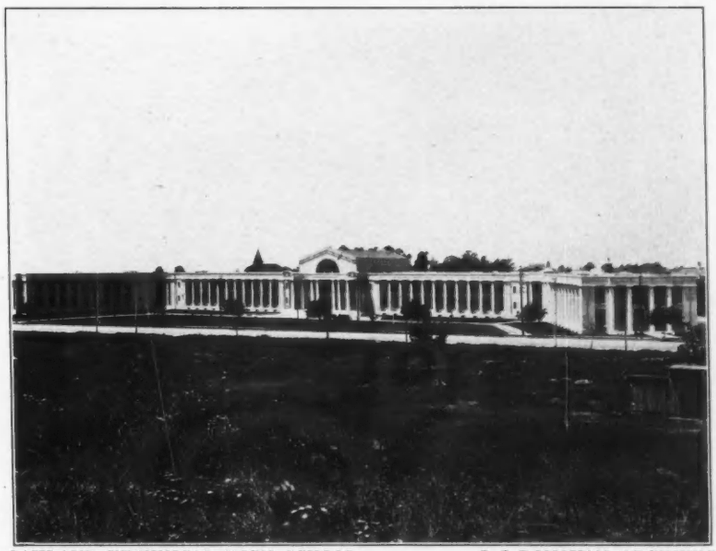
Therefore, there is a wider range for schemes in plan and greater possibilities exist for good wholesome and pleasing renditions.

Furthermore, most of our School Boards are abreast of the advancements and are conscious of the new spirit permeating throughout public school instruction, and they are endeavoring to meet the wants and appeals by honest effort towards good clean transactions in their building work. Also I find they are calling in the thinking citizens of their communities to help them solve their problems. This, in time, indicates more exacting studies from the architect. They are realizing more and more that good architecture is most valuable to a community.

In return for the repeal of the Act of 1872, the State is sure to profit not only esthetically, but financially, as well. An expenditure of money in school buildings is now considered an investment and not an expense. And if a school building has been well planned and studiously designed, it is bound to be attractive and inviting, which means much to the impressionistic minds of the young children. It is for them that the investment is made, and this investment should give the greatest returns to the community in good and pleasing architecture. It seldom costs as much to build from a well studied plan as it does from a poorly designed one.

There is so much to draw from in California, such as climate, traditions, history and people, that it little behooves us to go along in a cramped fashion, poorly mimicing the styles of ancient periods just because it sounds "high-filuting" to gush about the "classic," and the "mission," befuddling the intelligent as well as the hoi-poloi. None will ever know just how many miserable failures have been cloaked by these two terms.

Instead let us strike to solve the problems fairly and truthfully, giving to each its just dues, making the most of this wonderful climate in openness and lightness of treatment, giving an expression of cheerfulness and happiness, which is just as becoming to a school as it is to an individual. Then our schools will count not only in themselves as houses for the young, but as points of interest to the community. This is what the well trained architect will give to California in return for the repeal of the Act of 1872, and in return to public bodies for their confidence and fair dealings. The anticipation of such a future is hopeful not only to the architect, but to the State.



OAKLAND TECHNICAL HIGH SCHOOL — J. J. DONOVAN, ARCHITECT
HENRY HORNBOSTLE, CONSULTING ARCHITECT

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Plumbing Fixtures

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WRITE FOR OUR BOOKLET ON SCHOOL SANITATION

HEATH & GOVE, ARCHITECTS
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NEW LINCOLN PARK HIGH SCHOOL BUILDING
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"Target-and-Arrow" Roofing Tin

The flat portion of the roof of this building is covered with 125 squares of "TARGET AND ARROW" roofing tin, laid over wood strips or battens to secure a ribbed effect. Repeated selection of this brand of tin for use on monumental school buildings of this kind is good evidence of the high reputation this old-time, hand-made product enjoys, based on nearly a century's service.

"TARGET AND ARROW" is a specialty of ours handed down from the early days of our business. In this brand we have preserved an old-time standard of manufacture for the use and benefit of present-day architects. Few buildings have had so thorough a test of time as "TARGET AND ARROW" roofing tin. It remains today the same durable quality of roofing tin that we have supplied to American sheet-metal workers for nearly two-thirds of a century. It costs a little more than other roofing tin, so you are not likely to get Taylor quality if you write a specification that permits substitution. In your sheet metal specifications where roofing tin is required, simply call for Taylor's "TARGET AND ARROW" roofing tin, to be laid in accordance with the standard working specifications of the National Association of Sheet Metal Contractors. With a responsible roofing contractor, such a specification will secure you tin roofing work of the standard that has made the old-time roofing tin a by-word for durability and all-around satisfaction in service. We furnish upon request copies of this standard tin roofing specification form, also some instructive literature, telling about this old product. Our catalog is in "Sweet's," pages 520-522 of the 1914 and 546-549 of the 1913 edition.

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SOME REFINEMENTS IN SCHOOL BUILDINGS

Continued from page 105

No slash grain wood is used. All panels built up. All are coped behind plinths, casings, etc. Great pains is taken with the grounds, and small, very plain mouldings are used on top of the base. Otherwise the trim is absolutely plain.

The second story corridor of both grade and high school rooms is made into a pretense of an art gallery, by placing large opalescent glass ceiling lights and a neat panel ceiling effect. Pictures, bas reliefs, a phonograph, a few rugs and chairs, not forgetting some flowering plants, make an environment which no kid will ever forget.

Coat rooms are ceiled and varnished, as we find it better than plastered walls, and coat hooks are placed directly against the wood rather than on racks, which require an additional foot of width, and consequent increase in the size of the building. The fresh air inlet is furred down from the ceiling so that the coat rooms do not look like tunnels, and the air enters directly in the center of the end of the room.

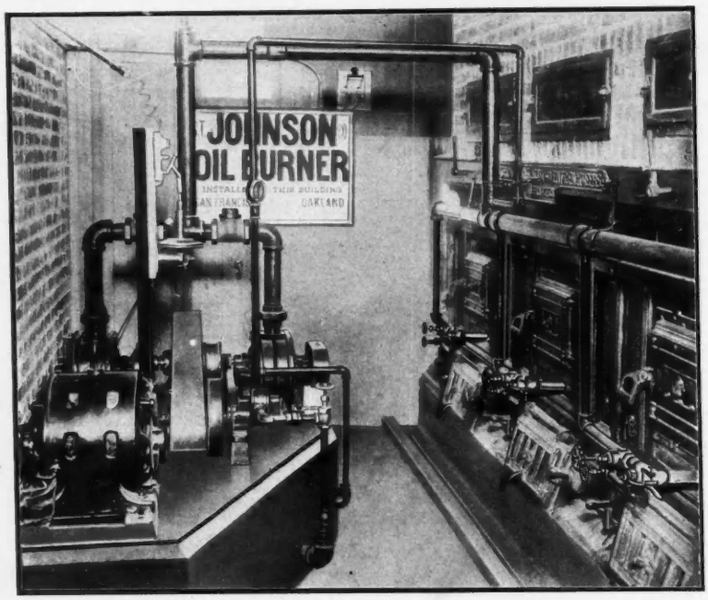
All of the hardware for each building is Master-keyed. The doors to class rooms are without a latch. They have handles on the outside, push plates on the inside, with check and spring; a spring lock with release on the inside. An interesting little recruit to the anti-noise crusade is the rubber button which we insert in holes bored in the edge of the stops of all doors. Time is lacking to tell of the experiments and failures in hardware, but beware of the expert. Common sense will unlock many a complicated problem.

The standard size for class rooms of 25'x32'12' has been used, but this will probably be reduced. Seventh and eighth grades are placed together in a departmental room. Slate blackboards are 42" wide. Exhibit board 14" wide. The bookcases have movable shelves; and glass doors, rabbeted all the way around on account of dust, are provided. These cases contain drawers and cabinets for storage, with cylinder locks. Where frame construction in corridor walls must be used special attention should be given to fire stops.

All ceilings are carefully furred, made true by wedging, 12" on centers with 1⅛" strips for conduits. All lighting is done by conduit. The lights placed out of center with the room to furnish the maximum illumination for each pupil. They are controlled in separate rows so that those nearest the windows can be turned on last.

Every School Board Architect will appreciate the thousands of little worries which have to be dislodged from the trenches in the course of so long a campaign as our firm has waged in and around Tacoma.

Finally, an effort is made to give each school a distinct architectural character, associated in some way with the name and location of the building. For instance, the Washington school is built of red brick and white stone in the Colonial style, and has the coat of arms of the "Father of His Country." The John R. Rogers school in memory of Washington's great governor of "Barefoot school boy" legislation fame, is built of concrete in a modified Mission style of architecture. It has a tablet bearing a figure of a barefoot boy and an appropriate inscription. In each building some commemorative and educational idea has been incorporated. The architectural treatment of the several schools is entirely different, and the duplication employed in most cities has been avoided.



FURNACE ROOM OF RENO HIGH SCHOOL

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It's really astonishing how quickly they pay you back in full. They are simple to operate, automatic in action and built for the highest class service.

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You may as well have the best and most reliable. Write for bulletin "Modern Oil Burning Equipments." A long list of satisfied customers.

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